The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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MR. JAMES H. CROFTS, STOCK AND SHARE BROKER,
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
Established 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Banks, Bonds (Foreign and Colonial), Railways, Miscellaneous, Insurance, Assurance, Telegraph, Shipping, Canal, Gas, Water, and Dock Shares.
BUSINESS negociated in Stocks and Shares not having a general market value.
BUSINESS in COLLIERY and IRON Shares, and in the principal WAGON and MANUFACTURING COMPANIES of the NORTH of ENGLAND and SCOTLAND.
BUSINESS in all the principal COTTON SPINNING Shares.
Mr. J. H. CROFTS, having now established CORRESPONDING AGENCIES in all the CHIEF TOWNS of the United Kingdom, is prepared to deal in the various LOCAL Stocks and Shares at close market prices.
Accounts opened for the Fortnightly Settlement.
Monthly and Daily Price Lists issued.
Bankers: City Bank, London; South Cornwall Bank, St. Austell.

SPECIAL DEALINGS in the following, or part:—

10 Alltami Colliery.	25 Flagstaff, £1½.	15 Pennerley, 27s. 6d.
30 Aberdaunant, 10s. 6d.	10 Frontino, £2 7s. 6d.	10 Pateley Bridge, £4.
20 Assheton, £1.	50 Gt. West Van, 11s. 3d	20 Prince of Wales, 3s. 9d
5 Bilson & Crump, £7¾.	10 Great Laxey, £18¾.	10 Richmond, £9 16s 3d.
5 Cakemore Coll., £2¾.	30 Glyn, £3.	5 Roman Grav., £13¾.
20 Colorado, 20s.	25 I.X.L, £1.	100 Rossa Grande, 1s. 3d.
30 Cathedral, 17s. 6d.	50 Javali, 11s.	30 Rookhope, 18s.
25 Cedar Creek, 13s. 9d.	25 Llanrwst, 27s. 6d.	25 Sweetland Creek, 5s 9d
40 Chapel House.	10 Marke Valley, £2 12 6	100 Thornhill Reef, 1s. 3d.
100 Chontales, 6s. 3d.	10 Newport Abercarn.	25 ditto (pref.), offer wd.
100 Clee Hill Coll., 2s. 6d.	25 North Laxey, 14s. 9d.	15 Van Consols, 42s. 6d.
10 East Van, £10¼.	50 Pestarena, 5s. 9d.	10 W. Tankerville, 31s.3d
25 Emma, 7s. 6d.	10 Pennant.	5 ditto(preference), £2¼
10 Eberhardt, £9.	25 Parys Mountain, 13s.	30 Wh. Grenville.
50 Exchequer, £2½.	30 Penstruthal, 13s.	10 Wheal Crebor, £3.

SPECIAL BUSINESS in POSITIVE ASSURANCE and ROYAL INSURANCE SHARES.
*** Shares sold for forward delivery (one, two, or three months) on deposit of 10 per cent.
Business on hand in all the principal TIN, COPPER, and LEAD Shares.

AQUARIUM, HOTEL, AND MISCELLANEOUS SHARES.—SPECIAL BUSINESS.—FOR SALE, 10 Brighton Aquarium; 20 Royal (Westminster), £2 2s. 6d.; 10 Langham Hotel, £16; 10 Alhambra Palace (£10 paid), £9¼; 10 ditto (£8 paid); 5 Milford Docks (fully paid), £5½; 50 Skerne Ironworks (offer wanted); 10 Midland Wagon (fully paid).
JAMES H. CROFTS, 1, FINCH LANE, LONDON.

COLLIERY SHARES.—SPECIAL BUSINESS in ALLTAMI, BILSON AND CRUMP, CHAPEL HOUSE, CAKEMORE, CARDIFF AND SWANSEA, NEWPORT ABERCARN, NEW SHARLSTON, THORP'S GAWBER, WEST MOSTYN (Ordinary and Preference), and Others.
JAMES H. CROFTS, 1, FINCH LANE, LONDON.

COTTON SPINNING SHARES.—These steady and remunerative Securities (comparatively little known on the London Market, but largely invested in in the manufacturing districts) can be bought at the present time at unusually favourable prices to pay good dividends on the capital invested. The following Shares (Oldham Mills) are amongst the safest and best of their class:—

Name of Mill.	Nom. amount of Share.	Paid up.	Last quarterly dividends, per cent	per annum.	Closing quotations.
Central Spinning	£ 5	£2 10 0	32,	10, 30,	26 ... £ 3¼, £ 4¼
Greenacres	5	4 0 0	30,	20, 30,	20 ... 5¾, 6¼
Green Lane	50	Fully paid	30,	25, 30,	25 ... 80, 85
Royton	5	2 0 0	25,	35, 30,	20 ... 3, 3½
Shaw	5	2 10 0	—	—	12½, 20 ... 2¾, 3¼
Star	5	2 10 0	—	17½, 25,	20 ... 3, 3¼
Twist	20	Fully paid	25,	5, 3¾,	26 ... 30, 32
Windsor	5	2 10 0	30,	30, 27,	20 ... 3¼, 4

*** The accounts of all the above companies are made up and profits divided quarterly.
JAMES H. CROFTS, 1, FINCH LANE, LONDON.

FOREIGN BONDS—ARGENTINE—EGYPTIAN—RUSSIAN, TURKISH, SPANISH. SPECIAL BUSINESS, and latest information.
JAMES H CROFTS, 1, FINCH LANE, LONDON.

RAILWAYS.—SPECIAL BUSINESS. Fortnightly accounts opened on receipt of the usual cover.
JAMES H. CROFTS, 1 FINCH LANE, LONDON.

MR. WILLIAM H. BUMPUS,
STOCK AND SHARE BROKER,
44, THREADNEEDLE STREET, LONDON, E.C.
[Established 1867.]

SPECIAL BUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.

Mr. BUMPUS directs particular attention to
MINING INVESTMENTS,
and is in a position to give reliable information and advice respecting the same.
FOR SALE, at prices annexed:—

DIVIDEND MINES.

25 Chicago Silver.	75 Great W Van, 12s.	10 Tankerville, £10¼.
15 Eberhardt, £9.	100 Penstruthal, 12s. 6d.	5 Van, £37½.
20 Frontino, £2½.	10 Roman Grav., £13¾.	15 Wye Valley, £6¼.
5 Great Laxey, £18¼.	5 Richmond, £9 16s. 3d.	3 W. Chiverton.

NON-DIVIDEND MINES.

40 Assheton, 20s. 6d.	10 East Van, £10¼.	50 North Laxey, 18
25 Argentine.	25 Flagstaff, 30s. 6d.	10 Pateley Brid., £3 18 9
50 Blue Tent, £3.	30 Glyn, £3¼.	30 Pennerley, 26s. 6d.
30 Birdseye Creek, 17s.	50 Hingston.	70 Parys Mount, 13s. 9d.
25 Condes of Chili.	100 I.X.L., 20s. 6d.	60 Prince of Wales.
40 Cedar Creek, 12s. 6d.	30 Javali, 11s. 6d.	4 Rookhope, 18s. 6d.
60 Chontales, 7s. 6d.	50 Llanrwst.	25 San Pedro, 20s. 6d.
20 Devon Consols, £2¾.	20 Ladywell, 28s.	30 Van Consols, 38s.
30 Exchequer, £2¼.	25 Marke Valley, 30s. 6d.	50 W. Tankerville, 30s 6d

SPECIAL NOTICE.—ARGENTINE COMPANY (LIMITED).
Considerable attention is now being directed to these shares, and most deservedly so. That the mines owned by this company are of extraordinary richness is now beyond doubt; all the reports fully confirm this, and the manager is confident that enormous profits will be realised as soon as the necessary machinery and appliances for working the ore are completed. It it not too much to say that the prospects of Argentine are unequalled by any other property in the market. The shares are firm and in demand, and an important rise may be confidently predicted. Every information concerning the company may be obtained on application to MR. BUMPUS, who has special facilities for dealing in the shares. Capitalists and Investors will do well to secure an interest in this valuable property without delay, as the next advices may cause a rapid advance in the price of the shares.

WILLIAM HENRY BUMPUS, SWORN BROKER.
Business transacted in Stock Exchange Securities, Mining, Colliery, and Miscellaneous shares of every description. Fortnightly accounts opened. References given and required when necessary. A Stock and Share List forwarded free on application.
BANKERS—The NATIONAL PROVINCIAL BANK OF ENGLAND, E.C.

MESSRS. A. ENDEAN, FISHER, AND CO., STOCK AND SHARE DEALERS, 3, LOMBARD COURT, LOMBARD STREET, E.C.
Bankers: London and Westminster, Lothbury.

MR. W. MARLBOROUGH, STOCK AND SHARE DEALER, 29, BISHOPSGATE STREET, LONDON, E.C. (Established 20 Years), can sell the following SHARES, at prices annexed:—

60 Aberdaunant.	60 Gt. West Van, 11s. 9d.	150 Prince of Wales, 4s 3d
50 Assheton, 20s.	75 I. X. L.	90 Pestarena, 5s. 9d.
25 Chapel House, £3¾.	100 Javali, 11s. 6d.	70 Parys Mount., 13s 6d.
70 Chontales, 7s. 9d.	50 Llanrwst.	60 Pennerley, 27s.
30 Cardiff & Swan., 35s.	30 Last Chance.	50 Rookhope.
300 Don Pedro, 2s. 6d.	25 Ladywell.	20 Richmond, £9½.
15 East Van, £10.	40 Marke Valley.	200 Rica, 2s. 6d.
30 Exchequer, £2½.	50 North Laxey.	100 South Aurora, 8s. 3d.
15 Eberhardt, £8½.	120 Old Treburgett.	30 San Pedro, 22s. 3d.
60 Frontino, £2 3s. 9d.	20 Pateley Bridge.	20 Santa Barbara, 42s.
20 Glenroy, £5¼.	10 Pennant.	25 Van Consols, £1 18 9d
25 Glyn, £3¼.	100 Port Phillip, 8s. 6d.	50 Wh. Whisper, 3s. 6d.
10 Gt. Laxey, £18¼.	80 Penstruthal, 12s. 6d.	30 W. Tankerville, 31s 6d

Shares Bought and Sold at net prices. Telegrams promptly attended to.

LEAD MINE INVESTMENTS.—
EVERY information respecting HOME and FOREIGN LEAD MINES may be obtained on personal application or by letter of—
MESSRS. PETER WATSON AND CO.,
STOCK AND SHARE DEALERS,
54, OLD BROAD STREET, LONDON, E.C.

MR. ALFRED E. COOKE,
STOCK AND SHARE DEALER,
76, OLD BROAD STREET, LONDON, E.C.

BUYER and SELLER of all MINE SHARES currently dealt in at close market price. Best attention given to business in RAILS, FOREIGN STOCKS, MISCELLANEOUS SHARES, COTTON SPINNING, &c., and every description of ENTERPRISE and INVESTMENT.

GOOD and SOUND SECURITIES, to pay FIVE to FIFTEEN PER CENT., and above.
Information in the SPECIAL INVESTMENT CIRCULAR for September, now ready. Post free, One Shilling (issued gratis to Clients and Correspondents.)
Published and Edited by—
ALFRED E. COOKE,
76, OLD BROAD STREET, LONDON, E.C.
(Established 1853.)

JOSEPH JOHN PYNE,
MINING BROKER
AND
STOCK AND SHARE DEALER,
6, BISHOPSGATE STREET LONDON, E.C.

Mr. PYNE having been connected with MINING ENTERPRISE for upwards of FOURTEEN YEARS, and having been a DIRECTOR of MINES in SHROPSHIRE, MONTGOMERYSHIRE, CARDIGANSHIRE, CARNARVONSHIRE, and YORKSHIRE, and also in VENEZUELA, has had special opportunities of acquiring knowledge in this particular branch of industry, and will always be desirous of giving every information in his power to any parties transacting business with him.
ALL DESCRIPTIONS OF SHARES are dealt in, including BRITISH and FOREIGN STOCKS, and RAILWAY SECURITIES.
BANKERS—THE ALLIANCE BANK (LIMITED).

MR. T. E. W. THOMAS, SHARE BROKER,
3, GREAT WINCHESTER STREET BUILDINGS, E.C.
Established 1857.

The following are the latest prices at which business could be done. Where the difference between the buying and selling price is wide transactions may be effected at an intermediate price:—

	Buyers.	Sellers.
Assheton	15s.	17s. 6d.
Birdseye Creek	12s. 6d.	17s. 6d.
Devon Great Consols	£ 2	£ 2¼
Eberhardt	8½	9
East Caradon	12s. 6d.	15s.
East Van	9½	10
Exchequer Gold	2	2¼
Flagstaff	1⅞	1½
Frontino	2⅛	2⅜
Glenroy	4½	5
Glyn	2⅞	3⅛
Great Laxey	17	18
Great West Van	11s.	13s.
Javali	9s. 6d.	10s. 6d.
Ladywell	1¼	1⅜
Marke Valley	1	1½
North Laxey	14s.	16s.
New Quebrada	3⅜	3⅝
Old Treburgett	4s.	5s.
Parys Mountain	12s.	14s.
Pateley Bridge	3½	4
Pennerley	£ 1	£ 1¼
Penstruthal	11s.	13s.
Plynlimmon	5s.	6s.
Prince of Wales	1s.	3s.
Richmond	9¾	9⅝
Roman Gravels	13½	14
Rookhope	15s.	17s.
Rossa Grande	—	1s.
Santa Barbara	1¾	2
San Pedro	1	1¼
Sierra Buttes	1	1¼
South Condurrow	3¼	3¾
Tankerville	10¼	10½
Tincroft	17	18
Van	37	39
Van Consols	1⅝	1⅞
West Assheton	⅞	1⅛
West Chiverton	17	18
West Tankerville	1¾	1⅞
Wheal Basset	8	10
Wheal Crebor	2¼	2¾

MESSRS. W. J. TALLENTIRE AND CO.,
STOCK AND SHARE BROKERS.
20, CHANGE ALLEY, CORNHILL, LONDON, E.C.,
Transact business in Stock Exchange Securities and Mining Shares of every description, either for immediate cash or the usual bi-monthly settlements, and also afford advice personally or by letter to executors, trustees, capitalists, and investors of every class in the selection of Securities for safe and profitable investment, their experience of the markets, extending over a period of more than sixteen years, together with special facilities for acquiring information, enabling them to act beneficially for clients.
They have established Corresponding Agencies in all the principal towns of the United Kingdom, and are prepared to deal in the various local Stocks and Shares at close prices. Orders per post or telegraph receive prompt attention.

INVESTORS SHOULD APPLY for a copy of Messrs. W. J. TALLENTIRE and Co.'s Circular, SENT POST FREE. It contains valuable information on Foreign Stocks (especially South American, Egyptian, and Turkish), Railways, and Lead Mines.

MR. THOMAS THOMPSON, JUN., 1, PALMERSTON BUILDINGS, BISHOPSGATE STREET, LONDON, E.C.
Mr. THOMPSON strongly recommends the purchase of the shares of the CHAPEL HOUSE COLLIERY COMPANY (Limited) for investment. This company, notwithstanding the stagnation in trade, clears a profit of 2s. per ton on its coal, and when the new works are completed the present handsome returns will be much augmented.

MR. WILLIAM WARD
(LATE WARD AND LITTLEWOOD),
CROSBY HOUSE,
95, BISHOPSGATE STREET WITHIN, E.C.,
STOCK AND SHARE BROKER.

MESSRS. ENDEAN AND CO., STOCK AND SHARE DEALERS, 85, GRACECHURCH STREET, LONDON, E.C.

MR. JAMES STOCKER, STOCK AND SHARE BROKER, 2, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.
[Established 1848.]

BUSINESS transacted in all kinds of STOCK EXCHANGE SECURITIES, also in every description of BRITISH and FOREIGN MINING SHARES.
SPECIAL BUSINESS in the following:—

BRITISH MINES.

East Van.	Roman Gravels.	Tankerville.
Van.	Grogwinion.	West Chiverton.
Glenroy.	Pateley Bridge.	Wye Valley.
Pennerley.	West Pateley Bridge.	West Wye Valley.
Glyn.	Llanrwst.	Parys Mountain.
Ladywell.	Marke Valley.	Van Consols.
Rookhope.	Great West Van.	West Tankerville.
North Laxey.	Penstruthal.	Aberdaunant.
Prince of Wales.	Old Treburgett.	Wheal Grenville.

COLLIERIES.

Chapel House.	Cardiff and Swansea.	Bilson and Crump, &c.

FOREIGN MINES.

Richmond.	Eberhardt.	Frontino.
Exchequer.	Flagstaff.	Emma.
Argentine.	Chontales.	Port Phillip.
Birdseye Creek.	Sweetland Creek.	Cedar Creek.
South Aurora.	Javali.	I. X. L.
Gold Run.	San Pedro.	Don Pedro.
New Quebrada.	Blue Tent.	Yorke Peninsula.

JAMES STOCKER, SWORN BROKER.
Consols, Foreign Bonds, Railways, Bank, Telegraph, Gas, and all miscellaneous Shares bought and sold, and fortnightly accounts opened for same. Shares sold for forward delivery on receipt of cover. List of prices and every information forwarded on application. References given and required when necessary.
BANKERS: LONDON AND WESTMINSTER.

MR. CHARLES THOMAS,
MINING AGENT, STOCK AND SHARE DEALER,
3, GREAT ST. HELEN'S, LONDON, E.C.

MESSRS. A. W. THOMAS AND CO.,
10, COLEMAN STREET, E.C.
MINING AGENTS, AND STOCK AND SHARE DEALERS,

"INVESTMENTS AND SPECULATIONS FOR 1876."
Post free for six stamps.

NOTICE TO SHAREHOLDERS.
EAST CHIVERTON LEAD MINE.—
WANTED TO PURCHASE, ONE THOUSAND SHARES in the EAST CHIVERTON LEAD MINE, for cash. Sellers will please state number for sale and lowest price to—
GOULD SHARP AND CO., 42, POULTRY, LONDON, E.C.

TO INVESTORS AND SHAREHOLDERS.
SHARES FOR SALE, FOR CASH.—
Offers can be made in "Lots," or less numbers would be sold:—

200	ABERDAUNANT	LEAD.	150	PATELEY BRIDGE	LEAD.
90	ASSHETON	do	200	PENNERLEY	do
200	CENTRAL VAN (offer)	do	200	PRINCE OF WALES	COPPER.
100	EAST CHIVERTON	do	50	ROMAN GRAVELS	LEAD.
30	EAST VAN	do	150	ROOKHOPE	do
200	ELGAR	do	100	SAINT PATRICK	do
50	GLENROY	do	200	TALYBONT (offer)	do
100	GLYN	do	60	TANKERVILLE	do
20	GREAT LAXEY	do	12	VAN (offer)	do
200	GREAT WEST VAN	do	100	VAN CONSOLS	do
55	GROGWINION (offer)	do	25	WEST CHIVERTON	do
200	LADYWELL	do	100	WEST TANKERVILLE	do
100	LLANRWST	do	48	WEST CRAVEN MOOR.	do
200	MEDLYN MOOR	TIN.	100	WEST WYE VALLEY	do
50	MONYDD GORDDU	LEAD.	5	WEST WHEAL SETON.	COPPER.
190	NORTH LAXEY	do	100	WHEAL CREBOR	do
200	PARYS MOUNTAIN	COPPER	50	WYE VALLEY (offer)	LEAD.
200	PENSTRUTHAL	TIN.	100	WEST GOGINAN	do

N.B.—A few of the above will be sold much under present market quotations.
OFFERS CAN BE MADE.
GOULD SHARP AND CO., STOCK AND SHARE BROKERS,
42, POULTRY, LONDON, E.C.
Established 1852.] [Bankers: London and Westminster, Lothbury, E.C.

MR. EDWARD ASHMEAD,
LONDON MINING AGENT, ACCOUNTANT, AND AUDITOR,
CORNHILL CHAMBERS, 62 AND 63, CORNHILL, LONDON, E.C.

Twenty years' uninterrupted experience (from 1854). Information on Mines and Mining Companies will be given personally or by letter.

Price One Shilling: post free, 13 stamps.
HOW AND WHEN TO INVEST—PANICS: THEIR CAUSE AND EFFECT.
"The author has been most successful in his advice to investors. The book should be extensively read."—Vide Press.
Published by—
E. J. BARTLETT, 30, GREAT ST. HELEN'S, LONDON, E.C.

WILLIAM B. COBB,
62, CORNHILL, LONDON, E.C.
Bankers: The Alliance Bank.

Business transacted in every description of British and Foreign Stocks, Mining Shares, &c. Mr. C. is in a position to furnish investors with the most reliable information upon all Mines, Foreign Stocks and Railways, &c.
Fortnightly accounts opened in rails, foreign stocks, and mining shares, upon receipt of the usual cover.
SPECIAL BUSINESS in the undermentioned, viz.:—

Aberdaunant.	Hornachos.	Prince of Wales.
East Van.	Llanidloes.	Pestarena.
English and Australian Copper.	Malpaso.	Port Phillip.
	Malabar.	South Aurora.
Flagstaff.	Exchequer.	West Goginan.
Grogwinion.	Tolima.	West Wye Valley.

Investors should consult Mr. C. as to the purchase of Richmonds. Full and latest particulars of the mine can be had on application.
VICTORIA (LONDON) MINING COMPANY (Limited).—£1 shares, fully paid, specially recommended, paying dividends half-yearly at the rate of about 16 per cent. per annum on present price.

MESSRS. HARVEY, JORDAN, AND CO.,
MINING ENGINEERS AND AGENTS, ACCOUNTANTS, AUDITORS, MANAGERS OF PUBLIC COMPANIES, &c.
In connection with Messrs. TEAL, FOSTER, and Co., Georgetown, Colorado.
Mineral Properties Inspected.

LONDON OFFICES—57 (late 30), MOORGATE STREET, E.C.
THE LLANTRISSANT TIN PLATE WORKS.
THE PLANET SILVER MINING CO.

FERDINAND R. KIRK, STOCKBROKER,
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SPECIAL ATTENTION directed to FOREIGN BONDS and RAILWAYS. Some unusual opportunities are now offering for sale or purchase. Fortnightly accounts opened on the usual terms.
Bankers, London and Westminster, Lothbury.
Wherever a difficulty arises as to the price of any security, whether quoted or not, application should be made as above, when full particulars will be forwarded by return of post.

JOHN RISLEY (SWORN), STOCK AND SHARE BROKER,
38, CORNHILL, LONDON, E.C.
Established 18 Years.

References required with new business, or part payment in cash with orders.
Business transacted at the following rates of commission:—Foreign Stocks, ¼ per cent.; and Mining Shares of £4 each and upwards, 1¼ per cent.; under £4, 1s. per share.
J. R. has great confidence in recommending the Shares in WHEAL CREBOR. A fine course of ore is now being laid open in the new ground, and as the development extends eastward the shares will command a very high price.

MESSRS. J. TAYLOR AND CO., 86, LONDON WALL, LONDON, E.C.,
MINING ENGINEERS AND INSPECTORS, STOCK AND SHAREDEALERS.
Have business in the following at close rates:—Aberdaunant, East Van, Glyn, Great West Van, Llanrhaiadr, Marke Valley, North Prince Patrick, Penstruthal, Pennerley, Prince of Wales, Roman Gravels, Rookhope, South Condurrow, Tankerville, Van, Van Consols, West Tankerville, Wheal Grenville.
Argentine, Condes, Eberhardt, Richmond.

GROGWINION LEAD MINE (LIMITED).
MESSRS. H. HALFORD AND CO., STOCK AND SHARE BROKERS, of EXCHANGE CHAMBERS, CHANGE ALLEY, LOMBARD STREET, LONDON,
Strongly recommend the ABOVE MINE as one of the BEST and SAFEST MINING INVESTMENTS. The dividends are declared half-yearly—the one for the last half year was 12½ per cent.; the next one will probably be 20 per cent. The "reserves" are valued at £200,000. Every information upon application to the above.
Daily Closing Price Lists of Mines and all other Securities sent post free on application.
Messrs. H. H. and Co. are BUYERS of Shares in GROGWINION MINE, and also of Shares in WYE VALLEY LEAD MINE; and they will be GLAD TO HEAR from BROKERS or DEALERS who have ANY FOR SALE.

FOR SALE,—50 Prince of Wales, 3s.; 10 Chapel House, £3; 10 New Zealand Kapanga, £3; 20 Yorke Peninsula, 8s. 3d.; 50 Pestarena, 5s. 6d.; 25 South Aurora, 8s. 3d.; 5 Glenroy, £5; 15 West Tankerville, 31s; 25 North Laxey, 16s.; 25 Rookhope, 17s. 6d.—each net.
Address, "H. J. W.," Mr. Barber, 13, Royal Exchange, London, E.C.

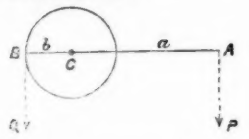
STOCK.—HAYWARD TYLER AND CO., of LONDON, have now ready ENGINES, BOILERS, and "UNIVERSAL" STEAM PUMPS, having made extensive alterations in their premises to enable them to keep a stock.

Royal School of Mines.

PROF. SMYTH'S LECTURES ON MINING—No. XLV.

[BY OUR SPECIAL REPORTER.]

The subject of raising the mineral in the shaft is so large that we can deal only with the principles of the general apparatus which is in use. As long as manual labour is sufficient the apparatus employed will be the tackle, windlass, or stowce, with usually a round hempen rope, and some sort of bucket to carry the material or to hold the water. In the latter case very commonly a wooden bucket strengthened with iron is used. In the case of metalliferous mines and in the sinking of collieries a short iron bucket, termed a kibble, is employed, made in several segments and rivetted together, with the bottom rivetted on in the same manner. Ears are rivetted to the side at top for attachment with the rope, and commonly a handle is rivetted to the bottom, for the purpose of steadying it as it comes up, and for convenience in emptying it. The kibble is attached to the rope sometimes by special hooks, in other cases by means of an arch curved round from one side. A safety-hook should be employed for suspending the kibble, either with a spring to prevent the kibble being shaken out, or a thong of leather passing through a slot in the end, or else a slot in each part of the hook, with a pair of spring-like pincers passed through. Where a great deal of work has to be done by the windlass, and especially where men have to be lowered by it, a great deal of precaution is necessary. The windlass is very largely employed in works near the surface for ironstone or coal, and also largely in metalliferous mines. In its usual form of construction it is a very simple piece of apparatus, consisting of a barrel made of a convenient length for a shaft, placed about 30 to 36 in. from the ground, this depending partly upon the custom of the neighbourhood, and partly on the strength and size of the men. This barrel is fitted with one or more handles, variously placed; frequently one end is flattened out, placed in wood, and secured by a ring of iron. When the handles are double it will generally be found that they are placed in the same direction opposite to one another; so that one is at the summit of its circuit when the other is at its lowest point. The result of this is that a jerk is given to the barrel during the revolution, but this is generally submitted to, and in only a few cases had the lecturer found this obviated by the simple expedient of placing the handles at a different angle, from 90° to 45° apart. The barrel will be from 6 to 10 in. diameter, or larger still under some circumstances, and if wire-rope has to be used, it is very important that the principle on which the windlass works and the amount of work which can be got out of it should be well understood. Where you have a set of people raising water, or stone, or stamp stuff, or material for the stopes it is very important to know what amount of work may be done in a given time.



In Fig. 33, C B is the leverage from the barrel to which the weight Q is suspended, and P is the power acting at the extremity of the arm C A; if, then, we call C B=b, and C A=a, there will be equilibrium when $P \times a = Q \times b$, or $P = Q\,b\,a$. This is theoretical, in practice other points must be taken into consideration, especially the friction of the bearing. Thus if D, equal pressure on bearing, f co-efficient of friction, and r equal radius of bearing, we should have $P\,a = Q\,b + f\,D\,r$. Several mechanicians have had series of actual experiments made to test in practice the work which can be done—Coulomb, Morin, Walker, &c.—and these, although they vary among themselves, come near enough to give us a tolerably correct notion. Taking the results of the experiments of Walker, he finds that a man will work with a pressure of 12 to 14 lbs. on the hook handle of a windlass at a velocity of 220 ft. per minute, which will give us, taking the lower estimate of 12 lbs., 2640 foot-pounds. If, then, we take a case which we find frequently occurring in the West Riding of Yorkshire, or in Shropshire, where shallow coal pits are worked by a small party of men, and where you find one or two men at work on the windlass, we take Walker's estimate, and want to know what two men will be able to raise in a day of eight hours from a pit 155 ft. deep, then we shall get 7 tons 10 cwt. 3 qrs. 12 lbs. From various delays, from the occasional fall of the kibble, &c., it is not often that you can expect to get from the men the amount of work indicated by these rules. The barrel of the windlass is supported by two uprights, in each of which is cut a slot for receiving the axle; there is usually no special seat, except a small piece of rounded iron placed in the slot; the frame is frequently strengthened by a plank at the top, or by a bar. The whole apparatus is mounted on a couple of longitudinal pieces, and these again crossed by transverse bars supported by little struts. It is an important point in these windlasses to have them constructed so as readily to be taken to pieces, and conveyed to any other part of the works where they are needed. Another point to be noticed is that there should be a simple catch to prevent the handle flying back, a hook or bolt by which the handle can be held.

In the streets of London, in connection with the sewers' works, some years ago might be seen a variety of windlasses, some from the central districts of England, of very simple construction, where instead of uprights the barrel was supported in the angle of two crossed pieces of wood. Another variety of windlass is that with toothed wheels, where the men work on a pinion with six to twelve teeth, working on a larger wheel, and generally in connection with a drum of greater diameter than usual. With these larger quantities can be raised at a time, or from greater depths, and they may be seen in use in West Yorkshire, where the men, although winding away gently, raise a fair quantity in a given time. In the brown coal districts on the Continent windlasses on a larger scale than those mentioned above may be met with, where instead of a handle they have a barrel of 2 to 2½ ft. diameter, and handles, as it were, embracing the barrel, so as to be worked like the handles of a steering wheel. Spain is, of all countries of Europe, the country of windlasses, partly from the fact that a great number of their mines are opened in districts where there is a great dearth of water. Men are employed to wind from depths of 50 to 100 yards, and even more. They use a barrel of extra thickness, as much as 3 ft. diameter, and very frequently ropes made of Esparto grass, and the men get through a wonderful amount of work, even with the heavy material they have to lift, coming quite up to, and even passing beyond, the amount you would expect from the calculation. In the French method instead of handles they use a large wheel, several feet in diameter, with steps up which the men walk, and, according to Gen. Morin, the amount of work got through with these tread-wheels is somewhat greater than with the ordinary windlass, being as much as 3176 foot-pounds per minute.

When we pass from manual labour to the use of horse power for raising the material, we are obliged at once to depart from the great convenience we had with the windlass in having the axle placed over the shaft. Where a horse is employed in the simplest way, we require to have a pulley over the shaft. The pulley may be of cast-iron, 2 ft. diameter, placed on pieces of timber; these may be spread out a little, so as to leave the shaft clear between the four legs. The rope to which the kibble is attached passes over the pulley, and at the other end is attached to the horse, which walks along a horse-road, and same distance as the depth of the shaft; then it is made to walk back again, to allow the kibble to descend. This apparatus is attended with tolerably satisfactory results, till when the shafts becomes deep, and the weight considerable, there is a risk of the horse being over-run, or drawn back. The apparatus is known as the derrick, or the whipsey-derry. The horse-whim is another machine, on the principle of the wheel and axle, and in it we require pulleys for guiding the rope from the machine over the top of the shaft. There is a framework by which the apparatus is supported, consisting of a long span-beam, generally 30 to 40 ft. long, supported at the extremities on legs, and strengthened towards the centre with diagonal struts, with additional struts at the sides to prevent it being turned over. A vertical strong beam supports the drum or cage, the latter being formed of three circles or rims, built together in segments, the sides completed by laths, as is commonly the case for chains, and sometimes for ropes, but with ropes the laths are generally placed close together. The drum should be consistent with the length of leverage required, 8, 10, or 12 ft. diameter, or even more; attached to it is the horse beam, 26 to 36 ft. long, to which one or two horses are attached as required, by means of an iron rod generally. Where chains or round ropes are employed they wrap around the drum, and to prevent the rope passing down interfering with that which is passing up there will be a brattice. Horse whims may vary much from this type, when they have to be employed for deep mines, in such countries as Mexico, or the Schemnitz district, or wherever there is a deficiency of water and fuel. Sometimes very large horse whims are employed; they are then large pieces of carpentry, wanting perhaps a large house to put them in, and having as many as six horse beams intersecting each other. Among the models you will see another variation, which differs in having a very small kind of drum, and which is used with a flat rope, for the double purpose of going more regularly down the shaft over flat pulleys, and also by its winding on itself alternately to increase and decrease the leverage as it winds. In old districts in many places you may see a kind of frame for placing the pulleys on over the shaft, something like a window frame. At the present time that has been almost entirely replaced by the system of poppet heads (that being the name given to them in the metalliferous districts, equivalent to the head frame, or shaft frame, of other districts), signifying a timber or iron frame, on which the pulleys are placed. The pulleys are placed not more than 8, 10, or 12 ft. above the ground, for the purpose of allowing the rope to pass off horizontally to the drum: where other classes of power are employed the frame becomes a very extensive piece of apparatus. The most convenient form for the poppet heads for a horse whim is to have a couple of legs with cross pieces, the pulleys resting on two other cross pieces, in such direction that a tangent struck from the surface of the arms of the drum shall just take the pulley in the right direction to pass down the shaft. In many districts cast-iron pulleys of 2 to 3 ft. diameter are used, as in old times, but owing to the requirements of strength, of depth of rope, then the employment of wire-rope, and after that the introduction of machinery, giving greater speed to the apparatus, so these pulleys have been changed step by step. As these conditions changed it was found that the larger pulleys for use with the thick stiff ropes were too heavy. When a great velocity was given to the pulleys on the weight being brought to the bank and landed it was found that the pulleys, from the impetus they had, continued to run on for a considerable time, and this led to great wear and tear of the ropes. This caused the introduction, some 20 years ago, into the North of England of compound pulleys, made up of a central boss of cast-iron, into which the axle is inserted, the rim of cast-iron, or in some cases of wrought, usually cast with sockets in it for the reception of the arms, which are mere slight round bars of wrought iron, and in this manner the weight of the entire apparatus was most materially diminished. In the larger collieries these pulleys may occasionally be seen 20 ft. diameter, very commonly 12 ft. to 16 ft. In one case which the lecturer had recently seen the pulley was 21 ft. 6 in. diameter, and wrought-iron arms 1¾ in. diameter, and the weight of the whole wheel 4¼ tons.

A main point to be looked to where considerable velocity is to be attained is that the pulleys shall be placed a considerable height above the ground. For when we look at the large size of the drums which lift the weight in the shaft, as much as 60 ft. in one revolution, the mistake of allowing the drum to make a single turn too many would dash the carriage against the top. In some cases they are 20 ft., in others as much as 60 ft. above the landing stage. The frame for the pulleys will consist of standards of as much frequently as 12 in. square laid on transverse pieces, or on a solid base of stone, which bears sockets of cast-iron for the uprights. Sometimes the uprights will be of four standards, with or without back legs; or the framing may have a triangular form, which appears to be the simplest and most satisfactory. The pulleys will rest at the junction of the uprights and back legs. The legs may extend back as much as 30 ft. to 60 ft, and will be abutted against a strong wall, or against the engine-house. Struts and stays of various kinds will be required in different parts of the framing; and to the frames will usually be attached the guides or conductors for guiding the cages in the shaft. Means must be added to enable a man to get up and grease the pulleys, either by steps or by a horizontal staging from the engine-house if it is close to.

THE BRITISH ASSOCIATION.

In the able and eloquent address delivered by Prof. ANDREWS at the annual meeting of the British Association he noticed the progress that had been made in the minimising of fuel in the smelting of iron, and the valuable products obtained from coal, and in no more appropriate place than Glasgow could he have alluded to the late Mr. NEILSON, who had done so much for the iron trade. In the early part of the present century considerable improvements were made in the form and size of the blast furnaces by GIBBONS, HILL, and others, and the blowing and blast engines superseded the old bellows. At that time there was no recognised system with respect to the quantity of ore and the flux necessary to smelt it. DAVID MUSHET, however, after many experiments, succeeded in giving the necessary quantity of each. Then followed the mode of heating the air before it went into the furnace. This most valuable and important invention was patented by Mr. NEILSON in 1829, he at that time holding the position of manager of the Glasgow Gasworks. The value of the patent was soon recognised, and the inventor was rewarded by an ample fortune after having had several lawsuits, in one of which he and his partners obtained a verdict for more than 100,000*l*. Before the "hot blast" was introduced and was sent into the furnace at a heat of 600° or 700° it took eight tons of coal to make a ton of Scotch pig, whilst the same is now effected with considerably less than three tons of coal. In the Cleveland district, we have it on the authority of Mr. ISAAC LOWTHIAN BELL that since the year 1864 they had succeeded in reducing the consumption of coal to make a ton of pig-iron from 70 cwt. to from 41 cwt. to 44 cwt., and he considers that quantity too much by far, and thinks that of the 20,000,000 tons of coal used in the making of pig per year it was possible to economise from 2,000,000 to 3,000,000 tons. All will admit with Prof. ANDREWS that the fuel consumed in the manufacture of iron is great y in excess of what it should be, and that the vast volumes of smoke which darken the atmosphere of our manufacturing towns indicate the waste, or a part of it at least, from imperfect combustion. But horizontal flues with large chimneys on hill sides are not likely to be attempted, in towns at least. That in some of the works removed from towns such could be effected we have little doubt. In the North of England, at the extensive lead smelting works of Mr. W. B. BEAUMONT, M.P., there is a horizontal flue more than a mile in length, in which valuable deposits take place, and are recovered. Allusion was made to BOYLE, DALTON, GAY-LUSSAC, and GRAHAM, to whom we owe the discovery of the mechanical laws which govern the properties of gases and vapours. To them our working miners are greatly indebted, for they have laid down specific laws affecting the circulation of air through confined passages such as the galleries of mines. GAY-LUSSAC and others have demonstrated that the gases dilate uniformly with the temperature under constant pressure, and that the increase of the volume is for every degree of the centigrade thermometer equal to 0·00375 of the volume of zero.

The laws of GAY-LUSSAC and MARIOTTE determine the weight of a gas under a given pressure and temperature when the specific weight of the same gas under a certain pressure and at the temperature of zero is known. The remarks made in the address with respect to quinine, and its value to the well-being of man, will be admitted by all, whilst all will agree that he who succeeds in devising any artificial method of preparing it will be truly a benefactor of the race. That it will be produced otherwise than it is at present there is every reason to believe. Coal tar has brought to light many wonders, and we believe there are yet many more in store. In addition to the beautiful dyes which please the eye, and scents which delight our sense of smell, there are other things equally, if not more, valuable produced from coal tar. Madder was long cultivated for the sake of its dye, the well-known Turkey red being one of the finest madder colours, and one of the most valuable discoveries of late has been the making of artificial alizarine (the dye principle of madder). The well-known chemists GRAEBE and LIEBERMANN, from certain experiments caused them to surmise the analogy existing between alizarine and certain bodies contained in coal, the long sought-for alizarine was discovered and found in every essential to be what had been previously obtained from the madder root. The utilisation of this product was effected by Mr. PERKINS, who also discovered the value of aniline as a source of dyes whilst actually engaged in certain experiments which he hoped might lead to the artificial production of quinine from tar. At the present time we believe experiments are being made in the same direction, and many of our most eminent chemists are of opinion that before very long quinine will be produced artificially, and placed within the reach of all classes. What coal tar is capable of producing no one can tell, but if it can give us such a valuable medicine as quinine then it will have done more service to the human family than it has yet done. This brief notice, bearing directly on some of the remarks of Prof. ANDREWS, we think will be read with interest, seeing that certain things which he indicated as of the greatest importance to all were likely to be realised, and that before long.

THE CARBONIFEROUS SYSTEM OF THE BRITISH ISLES.

Prof. E. HULL, M.A., F.R.S., read a paper at the British Association "On the Upper Limit of the essentially Marine Beds of the Carboniferous System in the British Isles, and the necessity for the establishment of a Middle Carboniferous Group." In this paper the author endeavoured to show the equivalent stages throughout the British Isles of the members of the carboniferous system, and divided the whole into successive stages from A to G, thus:—

Stage.	Name.	Locality.
G.	Upper coal measure	Lancashire.
F.	Middle	England, Scotland, and Ireland.
E.	Lower or gannister beds	England, Wales, and Ireland.
D.	Millstone grit	England, Scotland, and Ireland.
C.	Yordale beds	England and Ireland.
B.	Carboniferous limestone	Lower coal field of Scotland.
A.	Lower carboniferous, slate grits, and conglomerates—lower limestone shale	England, Ireland, calciferous sandstone of Scotland.

There were about 1053 species of marine genera in stage E (gannister beds or lower coal measures), of which 33 came up from the carboniferous limestone, but only four or five passed up into the overlying stage—F (middle coal measure) indicating a strong palæontological break. Again, of marine species found at rare intervals in stage F, four were peculiar to this zone, and the remainder were common to it and stage E. These beds are there identified both by position and palæontological remains over the whole area, and lead to some important results. Rejecting the evidence of fish and plant remains, which are inconclusive, the author found that there was a strong palæontological division between stages E and F, the fauna of the one (E) being essentially marine, that of the other (F) essentially estuarine or fresh water. The list of species had been extended from the Memoirs of the Geological Survey—the determination being those of the late Prof. E. Forbes, Mr. Salter, and Mr. Baily. The author of this paper was responsible for the determination of the stratigraphical position of the beds from which the species had been obtained. He found that genera *anthracosia*, *anthracomya*, &c., which some authorities regarded as of fresh water origin, passed into the stage C. These differences, together with some of a stratigraphical nature between stages F and G on the one hand, and E D C on the other, were so striking that the author submitted that it should be recognised in the classification of the beds, and he proposed to establish a "middle carboniferous" division, to include all the stages from the Yordale (C) to the Gannisters (E) inclusive. This stage would be essentially marine, while the term "upper carboniferous" would be restricted to the stages F and G, which were shown to be essentially estuarine or fresh water. The term lower carboniferous would remain, as at present, to designate the carboniferous limestone and vasi beds of the system, or stages A and B. The author had reason to believe from information supplied by Prof. Roemer, of Breslau, that the marine stage E could be identified on the Continent, both in Belgium and Germany, a band with goniatites and ariculo pecten, occurring about 100 ft. above the base of the coal measures, while, as they learned from Geinitz, the molluscs of the coal formation generally belonged to genus unio (*anthracosia*), so that this remarkable division with its marine fauna had had a range as wide as the British Isles and Western Europe, and made the upward limit of the essentially marine conditions of the carboniferous system.

Prof. WILLIAMSON differed from Prof. Hull, not upon the question of fact, but on the question of adopting a sub-division, because he was afraid to multiply these sub-divisions. If, however, such divisions were necessary, he thought the evidence of marine fishes and plants would be preferable. But he was inclined to stick to the old division of upper and lower coal measures.

Prof. HARKNESS considered the conclusion arrived at by Prof. Hull was open to criticism. The division which was contended for could not be supported, and for the reason that all lines drawn with reference to geological formation were for the most part of an arbitary character.

Prof. GEIKIE was of opinion that the fewer of those lines which were drawn the better; but if they were to draw geological boundary lines by fossils there could be no doubt of the superior value of Prof. Hull's method over that of Prof. Williamson. They must take molluscs as a much more reliable basis of classification than the fishes or land plants. But he could not see his way to adopt any such minute classification as that suggested by Prof. Hull.

After some remarks from Prof. LEBOUR on the subject of the strata,

Mr. JOHN YOUNG, of Glasgow, contended that it would not do to take England and Ireland as a standard for the formations everywhere developed over Great Britain. In Scotland he contended there were four divisions—the lower limestone, lower coals and limestones, upper limestones, and upper coal measures.

The PRESIDENT confessed that he did not understand the desire for close correlation in the carboniferous rocks. The resemblance in these rocks at distant localities seemed to him an argument not to found upon this correlation such minute divisions as Prof. Hull indicated.

After a brief reply, the thanks of the Association were accorded to Prof. Hull

THE MINERAL RESOURCES OF SPAIN.

Don Arturo de Marcoartu read a paper on "Spanish Mining" at the British Association. He said there was reason to believe that Spain stood superior to every other country in Europe in wealth of minerals, both as to quality and variety, and in addition to these natural advantages she enjoyed the scarcely less important one of a climate most favourable to labour, and each day the means for the transport of its products were being improved. All the 49 provinces of Spain contained minerals, but the mines of some districts had not yet been advantageously worked. Since the political, religious, and economical reforms introduced into Spain by the revolution of September, 1868, a new epoch of prosperity for the mining industry in Spain had commenced. The total value of production from 1868 to 1872 reached the large amount of 30,000,000*l*., equivalent to an average of 6,000,000*l*. a year, and in 20 years the mining products had increased fivefold. The reader of the paper then gave elaborate statistics as to the production of various ores in the different provinces. As showing the profits to the localities and to the mine owners, he stated that in 1855 foreign vessels were scarcely known at Huelva harbour. The first English steamer entered in 1857. In 1875–19 years later—317 sailing vessels and 355 steamers entered, all for minerals. In that year the number of English vessels was 144, and English steamers 305, in spite of the low prices of the metal market. French and British capital especially (Scotchmen having been the pioneer capitalists in the Huelva districts) had obtained very good profits during many years, and had conferred great benefits on both countries—England and Spain—during the late time of depressed trade in metal and chemical works. With regard to the iron mines, he said that in 1872 iron ore had been extracted from 22 provinces, which had 371 iron ore mines, worked by 5000 men and 6 steam-engines with 44 horse-power, and producing 7,214,684 metrical quintals; in 1872, 984,530 metrical quintals of ingots, and 414,640 metrical quintals of wrought iron, in 17 provinces. This was obtained by 4200 workmen, with 14 hydraulic engines of 1855-horse power, and 184 steam engines of 2319-horse power. The total general export to England in 1871, 1872, and 1873 amounted to 1,550,265 tons; to France in the same period, 352,691 tons; and to Belgium, 40,183 tons. The exports of iron ore from Spain to the United Kingdom alone had increased from 68,700 tons in 1861 to 678,853 tons in 1873. Coal was extracted in 1872 in 7 provinces, which had 168 mines, the total output being 6,877,914 metrical quintals of coal; but from the limited production of coal and lignite it was not reasonable to conclude that coal was rare and poor in Spain. But little attention had been given so far by capitalists to the investment of capital in the working of the coal fields of Spain; but as railways extended he anticipated a great increase of the rich coal fields of Asturias, Old Castile, and Andalusia. The general conclusions of the paper were as follow:—The Spanish copper mines had exported to England since 1856 over 3,000,000 tons of pyrites, valued at not under 7,000,000*l*. They had produced during the last few years more copper than the English, German, and Swedish mines respectively, and they would shortly be able to produce annually from 1,800,000 to 2,000,000 tons for centuries to come. He believed that the abundance and variety of minerals, the low price of extraction, and the shorter distance from Spain to England, France, and Belgium than which separated those countries from other regions rich in minerals, would make Spain the greatest depôt of minerals for these countries. It was with the deepest regret that he recognised the heavy losses that many families had suffered through investing their savings in the Spanish national stocks, and it was with great pleasure he could state that the German, French, English, and Belgian capitalists who had taken intelligent interest in the Spanish mines had realised high profits. In conclusion he said—"Cheapness of coal and the intrinsic

tion of the hydro-metallurgic process would increase the smelting of metals and manufacturing of chemical products. The proximity of Spain, and, generally speaking, the honesty of the Spanish people, did not consent to the invention of schemes of frauds against the British capitalist such as those which had happened of late years, fraught with brilliant prospects from unknown and deserted regions."

A discussion followed, in which Mr. Bohn, Dr. de Meschin, and Mr. Hyde Clarke took part.

COAL-BORING IN LINCOLNSHIRE.

Prof. HULL read a paper on "A Deep Boring for Coal at Scarle, Lincolnshire," at the British Association. The boring, he said, was undertaken about two years ago by a small company of Lincolnshire gentlemen; and the total depth attained up this time was 2035 ft. The boring commenced in the lower lias at a spot about 6 miles N.W. of the city of Lincoln, and after traversing the lias, rhœtic keuper, the bunter beds, the upper permian and the lower permian, it entered the carboniferous formation at a depth of 1901 ft., the remainder of the section being in carboniferous strata. The temperature at 2000 feet, was 79° F.; at a depth of 917 ft. a strong feeder of water wrs encountered in the lower keuper sandstone, and a still stronger at 1250 ft. in the bunter sandstone, when the water rose 4 ft. above the ground. This water unquestionably percolated from a distance of 10 or 12 miles underground. The boring was exceedingly interesting, as showing the depth of the carboniferous rocks so far from the borders of the Nottinghamshire coal field, and as giving the thickness of the overlying formations: but it had not as yet produced any satisfactory results. The carboniferous beds were of such a peculiar character that he hesitated to attempt to identify them with any particular division of the carboniferous system. A great physical problem was, he said, to be solved in regard to the great coal fields of Lancashire and Yorkshire. It was a question what became of this great coal field—whether it extended eastward towards the mouth of the Humber, and then north east towards the German Ocean; or, on the other hand, whether it formed a concealed basin, arising and terminating eastward under these newer formations? That was a problem that required to be solved, and it was one which engaged the attention of the members of the Royal Coal Commissioners, appointed some years ago to investigate the resources and extent of the coal formation of Great Britain. The view that he and others had taken in regard to this question was that these great coal fields of Yorkshire and Derbyshire did not extend indefinitely eastward under these formations, but after passing under the permian and new red sandstone, it began to rise to the east, forming a concealed basin, because they were to recollect that the carboniferous rocks were entirely discordant to all formations which rested upon them.

At the conclusion of the discussion, Prof. HULL replied to the various questions which had been put to him, and, in answer to the Rev. Mr. Campion, said that it depended upon the thickness and quality of the coal whether it would be profitable to work it at depths of from 2500 to 3000 ft. He had not the slightest doubt that we were on the verge of a period, if we had not actually arrived at it, in which seams of coal of first class quality and thickness would be profitably worked at the depths referred to.—Mr. PENGELLY thought that this was a question which might be afterwards settled, whether it would not be cheaper to import coals from America than raise them from such deep mines.

VISIT TO THE CLYDE LEAD WORKS.—About 50 members of the chemical section of the Association, including several ladies, on Wednesday, visited the Clyde Lead Works, belonging to Messrs. William Lang, jun., and Co. These works, which are situated in Cornwall-street, Paisley-road, were erected for the extraction of silver from lead by a new process, in which the precious metal is removed by addition of zinc and afterwards cooling slowly, when the zinc separates upon the surface, bringing with it all the silver as well as impurities. Subsequent operations remove the zinc by votalisation and the lead by oxidation, leaving the silver pure. After inspecting the various operations the company were invited to partake of luncheon, at the conclusion of which "The Health of Mr. Lang," and "Success to the New Works," were proposed by Prof. Dewar. Mr. Weldon added a few appropriate remarks, and Mr. Lang replied, stating that the works had been in operation only about six months, and that they were still in some respects imperfect. Dr. Wallace afterwards proposed "The Health of the Manager, Mr. Stoddart," Prof. Dittmar "The Ladies," and various other toasts followed. The members of section B were highly gratified with their visit to the novel and interesting manufacture.

NOVEL MODE OF STRENGTHENING CAST-IRON.—The President, Mr. R. M. Bancroft, and members of the Civil and Mechanical Engineers' Society, when visiting Mr. Kirkaldy's testing and experimental works the other day, were shown a cast-iron bar, which had been sent to him to test as a sample that had been treated with mysterious chemical mixtures, which were said to increase its tensile strength over 50 per cent. But as Mr. Kirkaldy's rule is always to break the specimen, or else his machine, he found it to contain upon being fractured a centre core of wrought-iron about 2 in. in diameter, and six smaller ones of the same metal spaced around it. He thus exposed the secret.

SOUTH STAFFORDSHIRE AND EAST WORCESTERSHIRE INSTITUTE OF MINING ENGINEERS.

A large meeting of members was held at the Midland Institute, Birmingham, on Thursday, Sept. 7,

Mr. THOS. LATHAM, President, in the chair.

The minutes of the previous general meeting and of council meeting having been read and confirmed, a discussion took place upon the advisability of carrying on the course of chemistry lectures in connection with the Institute, and it was ultimately resolved to continue the course, any deficiency in fees or expenses to be defrayed from the funds of the Institute.

The following paper, "On Brickmaking Machinery," having special reference to Emmett's patent, was then read by MR. ALEXANDER SMITH, Assoc. Inst. C.E.:—

Money is now a drug on the market, there being scarcely any outlet for capital. The defalcations of Turkey, and other circumstances, have caused a great want of confidence in foreign loans, and the necessary reaction in trade attendant upon an extraordinary demand, and fabulous, or "fancy," prices have caused a reluctance on the part of capitalists to embark their money in new enterprises. This latter feeling is also, no doubt, largely engendered by the fact that swindlers (for I can call them by no milder name) take advantage of an excessive demand in any branch of trade, and push into the market a quantity of rotten concerns, or "bogus companies," which so fearfully "pluck" the uninitiated; they are only floated to enrich the promoters, and are without the slightest shadow of success. Too many of these resulted from the late flourishing state of the iron and coal trades, and as sufficient time has elapsed to show up such concerns, people cannot be induced to invest in good things which would have the effect of stimulating trade. The only outlet for capital now is in buildings, and as a consequence of this, and also of the erection of Board Schools, and the Artizans' Dwelling Acts, every branch of the building trade is in an unprecedented flourishing condition. Brickmaking is quite a rage, and in almost every available bed of clay, especially in this district, is being developed, and as colliery proprietors and mining engineers are just now turning their attention rather to this question than to the raising of coal, I thought it would not be out of place to read a paper upon the subject of brickmaking machinery to the members of this Institute.

Making bricks by hand is an expensive process, for the clay has to be first prepared and rendered sufficiently ductile for moulding by an admixture of water, which also necessitates drying in the atmosphere, or in stoves, before they are ready for the kiln. The several handlings increase labour, extend the risk of damage, and if dried outside render the process subject to the weather. There are now many machines in the market for superseding hand-labour, and each of them possesses in some respect certain advantages, either as regards the quantity turned out or the quality of the article produced.

The machines in use may be roughly divided into three classes—1. The machines turning out from 15,000 to 20,000 bricks per day, which bricks are necessarily made of very soft plastic clay heavily charged with water, and thus require a long time to dry before being fired; in fact, they are subject to all the objections of hand-made bricks, and when finally taken out of the kiln are often soft, porous, and ill-shapel, fit only for the commonest purposes. The next class of machine referred to is one of which a large quantity are in operation, and is a great advance upon the one just described. They are best adapted for clay in the condition of coarsely ground dry powder, and the brick turned out is of a much more solid and durable nature than those of the last-mentioned class, and, as a general rule, may be sent to the kiln very soon after leaving the machine. One great defect, however, is non-picuous in these bricks. Owing to the fact of their receiving pressure on one side only, one half of the brick is of a much denser and more solid nature than the other; in fact, many of them crumble away on the impressed side in the firing, and even when that is not the case, if a brick be broken in halves the section will show one half to be quite porous and open, while the opposite side is moderately solid and has a good sharp edge. Machines of this class usually cost from 100*l.* to 250*l.*, and turn out about 10,000 bricks per day. Completely pressed bricks are produced by finishing those of the last mentioned class in a hand or other press before going to the kiln, which, of course, involves double time and labour. The machines of the third class, and the only machines which are complete in themselves, and which turn out a perfectly finished pressed brick, are of a very expensive construction, costing from 500*l.* to 1200*l.* In these machines the brick passes successively through two operations before being delivered, and the power required to drive them is necessarily considerable. Their average turn out is 10,000 per day.

In Emmett's Patent Brick-Making Machine, the price of which does not exceed that of the ordinary brick machines now in use, a completely finished pressed brick is turned out at one operation. The machine under notice has been designed to produce from semi-dry shale or clay 10,000 to 12,000 finely pressed bricks per day, having clean sharp arrises ready at once for the kiln. The bricks are dressed simultaneously on both sides by steam-heated plungers, the pressure, if necessary, being equal to 75 tons on each brick. Each plunger enters the mould plate nearly ½ in. This machine will also produce plastic bricks when a small charging pug mill is substituted for the charging-hopper. By removing the feed hopper, and feeding the machine with hand-made bricks, it will then produce 12,000 of the finest pressed bricks per day with the attendance of two lads. The advantages claimed for this machine are—1. The enormous pressure that can be safely applied.—2. Pressing the brick on both sides simultaneously between two steam heated plungers.—3. Safety from breakdowns, the machine being so proportioned that a large piece of iron or stone accidentally getting into the moulds will simply thrown off the belt.—4. Power of production in comparison with cost of machine.—5. Economy in working and economy in oil, the machine being self-lubrication, so that when adjusted the oil is supplied with the greatest precision and certainty. The heated pressing plungers being thus oiled ensure the panel leaving a clear smooth impression, and the result is a square arrisged brick ready at once for the kiln.

Mr. Smith then described the machine from drawings. There is a revolving mould-plate containing eight moulds. This plate has imparted to it an intermittent reciprocating motion, one of the moulds stopping before the feeding hopper at each movement, where a regulated quantity of clay is supplied by a plunger. The clay continues in the mould until it arrives between the two finishing pressing plungers, which are actuated by powerful levers and rods connected with the driving gear. The finished bricks are delivered on to a table by means of another plunger, which also performs the operation of oiling the moulds, a certain adjustable quantity of oil being allowed for every brick. During the time the mould plate is stationary a detent enters into notches, and keeps it secure till the filling, dressing, and delivering plungers are clear of the moulds when the detent is withdrawn.

After a brief discussion a vote of thanks was unanimously accorded to Mr. Smith for the paper.

THE SOUTH YORKSHIRE UNDERVIEWERS' AND DEPUTIES' ASSOCIATION.

The annual meeting of the above flourishing association was held on Saturday, at the Royal Hotel, Barnsley, and was very well attended. The Association consists of 162 members connected with the leading collieries in South Yorkshire, and nearly all of these were present. After an excellent dinner, which was capitally well served, the chair was taken by Mr. PETER HALL, certified manager, late of the Oaks. In his opening address the Chairman said he had great pleasure in meeting so many of the members, as it showed most strongly the interest they took in the Association. The Association had been formed for the purpose of bringing together the men connected with the collieries in South Yorkshire holding certain important positions, and for promoting a good understanding between them and their employers, and they had been successful. They had had some difficulties to contend with since last they had met together, but these had all been overcome, and the Association was now in a prosperous state, although the liabilities owing to the Swaithe Main explosion had been large. It was the duty of the members to maintain their position, and to make the future as bright as it had been before. In all matters connected with their business in which they had to see their employers they would adopt a straightforward course, and he had no doubt that in doing so they would be able to settle everything most amicably. He congratulated the members on the position of the Association, which had been, they would all admit, most successful. He would not detain them further, but call upon the secretary to read the annual report. Before doing so letters were read from Mr. Higson (mining engineer), Mr. Wardell and Mr. Gerrard (Government Inspectors), and Mr. Rhodes (solicitor), expressing regret at being unable to be present.

Mr. G. BEARDSALL (secretary) then read the report, commencing with the balance-sheet, from which it appears that the income for the year had been 480*l.* 10s. 4½d., and the expenditure 333*l.* 16s. 6d., which included 89*l.* 7s. to widows and children, 79*l.* 4s. to members through stoppage of work, 43*l.* to sick members, and 56*l.* for members' death claims. The balance in hand was 146*l.* 13s. 10½d. On the funds there were seven widows, 20 fatherless children, and three orphans. During the year 67 new members had been enrolled, whilst 11 had withdrawn. The report then proceeded as follows:—It will be observed that our liabilities during the past year have very much increased, chiefly owing to the lamentable accident at the Swaithe Main Colliery, where we lost, through an act of bravery, our President and five valuable members, who left five widows, 15 fatherless children, and three orphans to be cared for and supported by our Association. But in the midst of this crisis, and whilst the dark cloud was hanging over our Association, our Derbyshire friends came to our rescue with the sum of 20*l.* Two other members had died during the year, leaving two widows and five children. But your committee and officers have been very much cheered and encouraged in the work by the many expressions of thankfulness received from the recipients for the support they have had from the Association. A large sum was also paid to members who were off owing to the lamentable strike. But the Association has other objects in view besides those already named. Essays have been read, and discussions on them have followed. Essays have been given by the late President on Geology, by our President, Mr. Hall, on "Gases in Coal Mines," and by our vice-President on the "Working of Coal Mines." Each of these were well received, and we believe were beneficial to the members; but we hope to devote more time to this object during the coming year.

The CHAIRMAN remarked that he believed they would all agree that, considering everything, the Association had been successful beyond their most sanguine expectations, and proposed the Queen and Royal Family.—Mr. THOS. MITCHELL followed, by proposing Her Majesty's Inspectors of Mines—Messrs. Wardell and Gerrard. In doing so, he said he was sorry they were absent, as all present would have liked their company.—The toast was seconded by Mr. WARD, who remarked that he had always found the Inspectors faithful in representing all that was done respecting a colliery. (Hear, hear.) Not long ago Mr. Gerrard visited the Manvers Main Colliery, when he seemed highly satisfied with all the arrangements adopted there for working everything right. He himself knew they were treated as they ought to be by those whose duty it was to inspect mines.

The VICE-PRESIDENT (Mr. Moulson), in responding to the toast, said he could not help but draw the attention of the company to the serious fatalities which had occurred last at the collieries in Yorkshire as compared with those in other districts in Durham. There had been one life lost for 771 men employed, and 261,796 tons of coal raised in Northumberland, one person less killed for every 686 persons employed, 196,812 tons of coal raised. Even in Derbyshire, Notts, &c., which was part of the Yorkshire coal field, only one person for every 733 at work and for 183,694 tons of coal brought to bank, whilst in Yorkshire there had been one person killed for every 234 working for every 60,962 tons of coal raised. He said that he referred to these figures to urge upon them collectively and individually to use every effort that lay in their power to reduce the number of accidents in this district.—The CHAIRMAN thought that the last speaker should not have compared South Durham with South Yorkshire, as the liabilities are considered in the latter case to be one.

Mr. WARD then proposed the Derbyshire and Nottinghamshire Underviewers' Association, remarking that the South Yorkshire Association had very recently treated the members of it in very kind manner.—Mr. HALL briefly seconded, and Mr. WALLER, of Birley Vale responded.—The SECRETARY in proposing the next toast—the firm of Badger and Rhodes, the solicitors of the Association—complimented them on their legal ability, and considered that the Association had acted wisely in making that firm their solicitors. Each member could avail himself of their services, but as yet only once had they been needed, and that was when the enquiry respecting the explosion at the Swaithe Main Colliery was held.

The TREASURER of the Association seconded, and the toast having been duly honoured, Mr. GEORGE HALL proposed the Midland Institute of Mechanical and Civil Engineers.—This was seconded by Mr. WARBURTON, and responded to by Mr. BEEVORS, who said that he considered those present were eligible, and the Institute would, he believed, only be too glad to make every member of the Underviewers' and Deputies' Association members of their own too.—The toast of the Press followed, and this concluded the list.—At intervals during the evening several gentlemen enlivened the company with appropriate songs.

IRON AND STEEL INSTITUTE.—The first volume of the 1876 Transactions of this Institution has just been issued through Messrs. E. and F. N. Spon, of Charing Cross, and contains the verbatim notes of the general meeting in London in March, a full report of which, with abstract of the papers, was given in the *Mining Journal* at the time. The usual report of Mr. David Forbes, F.R.S. (the foreign secretary), on the "Progress of the Iron and Steel Industries of Foreign Countries," contains an enormous amount of interesting information. Reference is made to mining in Algiers, and amongst the general metallurgical notes is mention of the fact that a modification of Sherman's process for eliminating phosphorus, which was tested and condemned in this country a few years since, has proved successful at the Firming Ironworks, France. Instead of 30 grammes of iodide of potassium alone, they combine it with about 2 kilos. of alkaline salts, adding the mixture to each charge. Mr. Forbes announces that a new mineralogical society—the H. K. L.—with Prof. Miller as its president, held its first meeting in June. The Institution continues to make rapid progress, and whilst the Transactions retain their present instructive and practical character the annual increase in strength is likely to go on.

DYNAMITE.—The work of charging the drill holes in the Hell Gate excavation at New York harbour with dynamite began on Monday: 20,000 lbs. will be placed in 4000 charges in the rock and supporting columns. When the charging is finished the excavations will be flooded preparatory to the final explosion.

MANUFACTURE OF DYNAMITE.—M. Sobrero, the discoverer of nitro-glycerine, has communicated to the Académie des Sciences the results of some experiments, which he thinks may be useful to manufacturers of dynamite. While acknowledging the importance of M. Nobel's idea of giving to nitro-glycerine the consistency of a solid body by causing it to be absorbed by a silicious substance, so as to be more easily employed in mines, M. Sobrero has always been struck with the frequent occurrence of explosions in dynamite factories. He has often thought that these accidents, the details of which are very imperfectly known, may be caused by the manipulations which take place, either in preparing the paste of nitro-glycerine and the absorbent substance, or in moulding and compressing the paste for giving it the form of cartridges. Compression and friction against hard substances are so many causes which easily bring about an explosion of nitro glycerine. It seemed to M. Sobrero that these causes of danger might be avoided by modifying the manufacture of dynamite in the following manner:—The siliceous substances, of the nature of kieselguhr, &c., although only slightly plastic, are capable of being moulded after moistening with a little water, and take a consistency which is not inferior to that of dynamite cartridges. He made some cylindrical cakes with Santa Fiora fossil meal, which after being dried at 100° Cent. (212° Fahr.) to get rid of the water, were plunged vertically into the nitro-glycerine, so as to become saturated therewith. The experiments to determine the quantity of nitro-glycerine which cakes were capable of absorbing, were not made with liquid itself for fear of accident, but with olive oil, which is nearly of the same consistency. The author is convinced that dynamite with 75 per cent. of explosive substance, as is generally required, may readily be obtained by his process; while, at the same time, all violent pressure or friction is avoided. The cakes after leaving the bath of nitro-glycerine have only to be placed to drain, and then wrapped in paper, when they are ready for use.—*Journal of the Society of Arts.*

ESM BLASTING POWDER.

Urged by the numerous accidents which occur in the handling of the nitroglycerine compounds to seek a safer substitute for those explosives, Messrs. Curtis's and Harvey, of 74, Lombard-street, London, have directed their efforts to the improvement of the old and thoroughly stable mechanical mixture GUNPOWDER, which miners and quarrymen have been so long accustomed to handle with almost complete immunity from accident. They now desire to call the attention of users of explosives for blasting purposes to their new Extra Strong Mining Powder, which they are now prepared to supply at a reduced cost. The success of these endeavours is now fully assured, the ESM powder, after being subjected to the only certain test of actual experience in all parts of the world, having been proved to be superior to any blasting-powder yet introduced. Among practical men the most unanimous opinions prevail concerning the merits of this explosive, and their testimony justifies the manufacturers in strongly recommending it to the notice of all engaged in blasting operations.

The action of the ESM powder, though very energetic, is not shattering—a quality which renders it peculiarly suitable for use in ironstone mines, quarries, and other places where a lifting and rending action is desirable. It is also very suitable to the frequently occurring cases in which a rapid advance of the excavation is of the utmost importance, as in tunnelling, shaft sinking, and the driving of stone drifts, and to those cases where a very hard and tough rock has to be removed, such as the "posts" and "dykes" of slate quarries. The use of the ESM in granite, whinstone, and limestone quarries will be found to be highly conducive to economy. In the form of compressed pellets it constitutes a very safe and cheap explosive for breaking down coal, a use for which it is particularly suitable by its comparative freedom from smoke.

It is a well-ascertained fact that the effect of a blast of gunpowder is greatly increased by detonating the charge. When this mode of firing is adopted a greater shattering force is obtained with the ESM powder, and excellent results, especially in hard and tough rock. Suitable detonators are now supplied at a low cost.

The ESM powder, which is manufactured by Messrs. Curtis's and Harvey, of the Hounslow, Tunbridge, Glyn, Neath, and Clyde Gunpowder Works, can now be obtained in two sizes, large and small grain, through any respectable dealer in the United Kingdom.

NEW SAFETY-LAMP CLEANER.—A simple and efficient gauze brushing and cleaning machine has been introduced by the Protector Lamp and Lighting Company, of Manchester, and will prove very useful at large collieries where the cleaning of the safety-lamps is done on the proprietors' account. It is intended to be driven by a treadle, but where power is available it is, of course, substituted. It consists of two spindles running paralled to each other, to which the brushes are fixed by screw nuts; they are driven by a foot treadle and grooved wheel with gut bands. The gauze to be cleaned is placed upon the top brush, which will just fill the inside. Held loosely in the left hand two or three turns of the grooved wheel will be found sufficient to clean the gauze. The right hand is at liberty to sprinkle the flint dust upon the gauze. The smaller brush revolving inside and the larger one outside in the same direction, the dirt and dust are rapidly cleaned off. It is explained that it is only necessary to change the gauze cleaning brush for a fibre brush to polish the metal of the lamp, by holding the part to be operated upon close to the revolving brush, and that a small quantity of rottenstone and oil will be found of great assistance.

NEW AND EFFECTIVE BATTERY.—It has generally been considered impracticable to produce a current of electricity both constant and intense, but the new battery of Camacho, at present being introduced by Messrs. Plambeck and Darkin, of Queen Victoria-street, proves that view to be erroneous. The battery, the invention of which is certainly a step in the right direction, has been put to some very severe tests, with the assistance of Mr. T. Varley, the telegraph engineer and electrician, and fully bears out what the inventor claims for it—constancy in action, with a current of great power and intensity; absence of fumes; facility in manipulation, the changing of liquids being effected and the battery re-charged without removing the connections; and cheapness in action, the cost of working being little more than one-third that of a Bunsen's battery of the same power. The invention consists in a modification of the bichromate of potass battery, a complete system of circulation being introduced, by means of which the surface of the carbon element is kept in a constant state of activity as long as the supply of bichromate solution is maintained. If necessary the battery can be so arranged as to remain in constant action through a circuit without resistance for a period of 20 hours, the current evolved being equivalent to that of a Bunsen's battery, and the cost of working being less, as already mentioned. For producing the electric light the battery is considered to be without exception the best that can be adopted, as a light of uniform intensity can be maintained for a period of from 10 to 20 hours without the necessity of disconnecting or in any other way altering the arrangements of the battery, and for reason the total number of cells required is only half the quantity that would be necessary in case either a Bunsen's or Grove's battery were employed. For lighthouses, and in other places where space is limited, this fact alone is an important recommendation. It is explained that in charging and managing the battery the block or prism of retort carbon is supported in the centre of the porous cell, about an inch or so from the bottom, the surrounding space being filled in with pieces of broken carbon, about the size of a pea, well sifted before being used, to take out the dust. The broken carbon should be well pressed down as it is filled in, so as to ensure as good a connection as possible between the pieces. The porous cell thus prepared is placed inside the exterior cell, together with the plate of amalgamated zinc, which is bent so as to present two surfaces to the porous cell. Where several cells are used they are placed in a row, each cell about an inch lower than the preceding one, the india rubber tubes being so arranged that the liquid which runs out by the aperature at the bottom of each porous cell is conducted to the upper stratum of broken carbon in the next cell, and so on to the end of the range. Two reservoirs are provided, one of which is placed at the top and the other at the foot of the range of cells. The upper reservoir and each of the porous cells are filled with a solution composed of 5 gallons of water, 1 gallon of commercial sulphuric acid, and 6 lbs. of bichromate of potash, the latter being first dissolved in 1 gallon of hot water, the remaining 4 gallons of cold water, and then 1 gallon of sulphuric acid, being afterwards added. The exterior cells are then filled with water containing 7 per cent. by weight of commercial sulphuric acid. The positive and negative elements are connected in the usual manner, the zinc of one cell to the carbon of the next, and so on, taking care that the connections are clean and perfect. When all is prepared the tap of the upper reservoir is turned on, and the liquid allowed to run until the circulation is complete, and the lowest cell of all begins to trickle into the lower reservoir; the tap is then adjusted so as to allow the liquid to enter the first cell drop by drop. The same solution may be passed from three to four times through a series of six cells, according to the rate at which it is allowed to flow. After 20 hours' work the acid solution in the outer cell may be drawn off by a syphon, and fresh solution supplied. Once a week the battery should be disconnected, and the broken carbon well washed and replaced the porous cells having been for some time soaked in water. In order to avoid the necessity of amalgamating the zinc a teaspoonful of solution, composed of one part sulphate of mercury with eight

parts water, is put into each of the exterior cells every day. The battery is likely to come very largely into use.

THE MINERAL FIELDS OF BRITISH COLUMBIA.

It appears that considerable progress is being made in the development of the important mineral resources of British Columbia, and that many practical miners have made their way quite recently to that vast field. On both sides of the Rocky Mountains there are very extensive deposits of coal, and Dr. Hector points out their great value, showing that they offer a certain inducement towards a route to China and the East by Canada, the Saskatchewan, and British Columbia. In Vancouver Island, and on the opposite coast of America, there are extensive deposits of tertiary and cretaceous age bearing beds of lignite and coal, which are worked for the supply of the steamers trading between Victoria and the Fraser River. Amongst those who have proceeded to the new fields is Mr. Busby, formerly of the Darfield Main Colliery, near Barnsley, and more recently of the Sydney Mines, Cape Breton, at which place he was a manager and a magistrate. He has just proceeded to Baynes' Sound to take the management of a new colliery there, where they have sunk to a seam of excellent coal 7 ft. in thickness. Mr. Busby, an old correspondent, with respect to the coal mines of Cape Breton, sends us an interesting account of his journey from Sydney to Vancouver Island and British Columbia. Proceeding by way of Portland, he took the car for the long and wearisome journey of 3600 miles to California, crossing Stephenson's splendid bridge across the St. Lawrence. Detained for five days at Chicago owing to a snow storm, which had blocked the track in several places, he again proceeded on his way, and 99 miles from Chicago passed the La Salle Coal Mines. The Missouri River bridge, which connects Council Bluff and Omaha, and is ½ mile in length; the bridge is known as Posts' patent, and rests upon 22 hollow iron columns, two forming a pier. The columns are of cast-iron 1⅜ in. thick and 8½ ft. in diameter, 10 ft. long, weighing 10 tons each. They are bolted together with air-tights, and sunk to the rocky bed of the river, in one case 82 ft. below low water. After the columns are seated on the rock foundations they are filled up 20 ft. with stone concrete, and upwards with regular masonry to the bridge seat. The 11 spans are 250 ft. in length, making the iron part 2750 ft. between the abutments. Passing on to Rock Springs there were several coal mines to be seen, and several others along the road as far as Ogden, where he met with several Englishmen connected with the mines.

After stopping a few days at San Francisco, Mr. Busby proceeded by steamer to Victoria, Vancouver's Island, which he reached in four days, the journey having occupied a month and two days. Mr. Busby then says—"At Victoria I was met by the secretary and other parties connected with the mines, who were very kind to me indeed, and shortly afterwards I saw the mines I am now connected with. I may tell you that Victoria is the capital of British Columbia, and has a population of about 5000, consisting of Indians, half-breeds, and others, the Chinese forming by far the largest proportion. I have several of the latter now working for me, and I find them very tractable, but slow. The Indians and Chinese, it may be said, form about two-thirds of the entire population of the province. After a short stay I paid a visit to Nama, an important mining district, where there are three collieries in successful operation—the Dusimina, the Vancouver, and the Harewood. It may be interesting to tell you that a Fitzwilliam is president of the Vancouver, and Mr. Henry Lascelles of the Harewood, and the collieries appear likely to be most successful. At this place I was much pleased to find several of the men who formerly worked for me at Cape Breton. Having stopped here one night I left for my destination—Baynes' Sound, a distance of 65 miles—coasting it in a canoe paddled by two Indians, and went up a river to camp, as the night was very rainy. Whilst in the locality I came across a ranche, or farm, kept by an Englishman who came from Staveley, in Derbyshire, but whose name I have forgotten. We then proceeded onwards, and safely landed in Baynes' Sound. Here I found a man who worked as a collier at Wombwell Main, in 1866, and who was well known in that locality. His name is Frank Laken. Such is a part of the statement sent by Mr. Busby, and we hope before long, through that gentleman's kindness, to be able to give a detailed account of the progress of mining in Vancouver's Island and British Columbia. The coal fields of the palæozoic age, it may be said, are situated in Queen Charlotte's Sound, off the northern coast of British Columbia, and yield some good anthracite coal. The secondary beds are confined to the Island of Vancouver, whilst the tertiary coal fields extend from California northwards, and through Oregon, touching the southern end of Vancouver's Island and British Columbia, so that a detailed account of those vast fields cannot fail to be interesting.

MINERALS IN BRAZIL.

A very careful and comprehensive report on the condition of the Empire of Brazil, prepared specially for the Philadelphia Exhibition, has just been issued at Rio de Janeiro. This report deals with almost every possible subject, but we only propose to refer to that portion which gives an account of the mineral kingdom in the country. Commencing with precious stones, we find that diamonds are met with in several provinces, and it is believed that larger stones, and in greater abundance, will appear when the population of the interior increases and mining industry receives more attention. Emeralds, sapphires, rubies, topazes, beryls, and black, blue, and green tourmalines, called Brazilian emeralds, are also found in the Empire, especially in Minas Geraes, where the common zircomite appears, together with other gems of more or less value. Many garnets are met with, but they are rarely perfect. Of quartz and its varieties rock crystals of great purity and large size are exported, as well as amethysts, which fetch high prices. Opals, chalcedonies, agates, and jaspers are met with throughout the interior, but chiefly in the province of San Pedro do Rio Grande do Sul. In Goyaz there are considerable masses of very pure crystal, containing sometimes veins of a much valued yellow quartz.

GOLD.—Speaking broadly, gold is found in every district of the Empire, but, of course, some are more distinctly auriferous than others. In these gold is found in compact quartz or quartzite veins, embedded in primitive or micaceous iron rock, and it also occurs in great quantities in the alluvial soil of rivers. Mixed with the gold in some parts platinum, iridium, and palladium appear; in some mines tellurium is found, as well as bismuth, and great quantities of arsenical pyrites.

SILVER.—This is found in many of the galenas throughout the provinces, but always in the proportion of less than 1 per cent. of lead; in some of the copper ores it appears in the proportion of 2·5 per cent. Nearly 200 years since the metal was found mixed with the gold, which until late years was extracted and reduced at the Aracoiaba Mountain, in the province of San Paulo. Historical tradition mentions the existence of rich mines in the province of Bahia, but the whereabouts of these deposits is unknown.

MERCURY.—In the province of Parana this metal has been discovered in circumstances that will admit of competition with the mines of Europe and Peru. Early in the century it was found elsewhere, and now it is reported to exist in its metallic state in San Paulo, principally in the alluvial deposits, but it has never been extracted.

COPPER.—This metal is found in some seven provinces, but chiefly near the town of Antonio das Lavras. The ore of this district, which contains the richest copper-bearing deposits of Brazil, yields as much as 60 per cent. of pure metal. In these mines malachite, lazulite, and klaprothine are met with.

MANGANESE.—This metal appears in several provinces, and is found in large quantities in Bahia.

TIN.—So little of this metal has been discovered that it can hardly be looked upon as an industrial product of the country. It is said to have been seen in the sands of the Paraopeba, in the province of Minas Geraes, and in some granites of Rio de Janeiro.

ZINC.—Some specimens of sulphuret of zinc came with the galenas from the Ibiapaba range, in the Ceres province, where it is also said to have been found on a spur of the Araripa range.

LEAD.—The Empire abounds with galenas, some of which are auriferous, and several places in which deposits occur are enumerated in the report. Chromate of lead is abundant at a place in the province of Minas Geraes, but as yet not much has been done with it; its composition is oxide of lead 69 per cent., chromic acid 31 per cent.

ANTIMONY.—In the National Museum there are specimens of sulphuret of antimony found in Minas Geraes, and it is believed to exist in other parts.

BISMUTH.—Ores of bismuth have been met with at two places in the province of Minas Geraes.

ARSENIC.—This is generally found with pyrites in auriferous formations, but also in the acid state combined with iron, forming scorolite, at one spot in Minas Geraes.

IRON.—There are some places in the Empire where this metal is found under the most favourable conditions. Incalculable quantities exist in Minas Geraes, and a large proportion of some of the mountains is composed of oligistic, magnetic, and micaceous iron. In the northern provinces, and in some of the others as well, there are enormous quantities of iron, more or less decomposed, in the argillaceous deposits which cover the plains and the slopes of the hills. The report goes so far as to assert that in Brazil there are iron mines which, owing to the complete absence of pyrites, are incontestably superior to the most famous mines of Sweden. The magnetic ore of Brazil contains 72·5 per cent. of iron; the oligistic, the martite, and the best micaceous 70 per cent., the proportion falling in the inferior qualities as low as 25 and 20 per cent. Iron, from its abundance and good quality, is by itself one of the most important elements of the wealth of the Empire; in general the deposits can be easily and economically worked, being for the most part near extensive forests, which when cut down spring up again in from six to ten years, and which, therefore, always furnish excellent fuel, near abundant streams and falls, which provide immense water-power for working machinery. Taking advantage of these favourable circumstances, many private individuals have obtained very profitable results from iron mining. The most important iron foundry in South America is on the banks of the small River Ypanema, one of the affluents of the Sorocaba. This establishment possesses valuable resources; ore of excellent quality, carbonate of lime for fluxes, refractory clay for building furnaces, sufficient water-power for the more important machinery, and very good forests, which can furnish a daily supply of 15 metrical tons of charcoal, a quantity sufficient to keep the furnaces constantly at work. By obtaining machinery and some skilled workmen from Europe the Brazilian Government is doing its utmost to make this establishment a successful one.

Passing over building stones of various descriptions, clays, and the like, we will add a few words on the subject of mineral fuel.

COAL.—Recent analyses prove the existence of coal in some of the provinces of Brazil. The Candiota and Arroio dos Ratos Mines in the province of San Pedro do Rio Grande do Sul are considered the most important. The former was granted to an English company, which is about to construct a line of railway for conveying the coal. The latter is also in the hands of an English company, which has its railroad already built, and supplies the steamers on Lake dos Patos and on some of the rivers. Concessions have been granted for working other valuable deposits, and it is hoped that in a few years this great element of industry and civilisation will help to increase the prosperity of the Empire.

LIGNITES.—Of these there are abundant deposits in most of the provinces, and mining grants have lately been made for working some of them,

BITUMINOUS SCHISTS.—These are also not uncommon, but the best known and richest deposits are on the southern coast of the province of Bahia. The owners of some of the concession are working petroleum on a large scale.

GRAPHITE.—This mineral is only found as yet, we are told, in some abundance in one province, forming nodules in gneiss, or in diminutive grains in eruptive calcareous saccharoids.

SULPHUR.—This has only been discovered hitherto as a sediment in certain sulphurous springs; in small quantities in another province, and abundantly at the Ouro stream in the Minas Geraes province, where it has been successfully employed in the manufacture of gunpowder.

CAPITAL, AND ITS EMPLOYMENT.

In my last communication on the above subject I endeavoured to point out the superiority of the field open for investors in the shape of home enterprise, particularly as to mining and trading companies, in contradistinction to those more favoured channels foreign bonds and railways, both of which have diverted so much of the public money. The curious compound of trickery, or of effrontery, resorted to by these foreign States is daily more manifest, and latterly has received further illustration in the cases of the Argentine and Peruvian Republics—the first named having undoubtedly had to resort to "pawning" stock to pay its dividends, whilst of the latter State we hear of wonderful rejoicings on the accession of the new President, who assumes office with a bran new agreement, by which the bond holders are simply "diddled" out of their rights, at any rate, for some time to come. These and other warnings will surely have the effect of keeping the money at home. To return, however, to the subject of mining, with its results so apparent and its successes so great, to individualise would be only to weary my readers with what is already known to them. What I wish to remind them of, however, is the fact that successes have only attended those undertakings which have had capital sufficient to work and develope them. Take, for instance, Van, which as originally worked or started was producing some 8000*l.* per annum, but under the influence of the capital of the present company is returning about 45,000*l.* per annum. Tankerville also, which in private hands was only just paying, is now under the same benign influence yielding a profit of 12,000*l.* a year. So with many others.

Whilst the investor of to-day would find that the high price commanded by these prominent mines would yield him only a fair rate of interest, there are, as previously intimated by me, rich mines which only require capital to yield large returns to the shareholders. Of these I would first name WILLOUGHBY, the history of which mine is interesting. Formed originally into a small company, of which three fourths was held by one gentleman, it presented all those elements of success that have since attended it. Unfortunately, however, just at the time when the evidences of its worth were bursting into realities this large owner died. The chief support of the mine being thus withdrawn there was nothing left but to go into voluntary liquidation, but such is the richness of the mine that it has not only paid its expenses but has yielded profit in addition. Sales of blende and lead are made alternately monthly, and the prospects are more encouraging every day. It is a mine which simply requires capital to make it a prize.

Of other mines possessing very promising features, notably Pennant, Rookhope, Plynlimmon, and others, I will upon another occasion enter more fully.

76, Old Broad-street, London, Sept. 15. ALFRED E. COOKE.

THE WEEK.

SATURDAY, SEPT. 9.—To-day was remarkable for the staggering blow given to Egyptian bonds. For the last two accounts very large differences left the pockets of several of the principal dealers here who were "bears," and so long as the French buying continued they had to submit, watching narrowly, however, for their turn, which came to-day of all days. The market when attacked was found to be wholly unsupported, and by the aid of a "McLean telegram" the price, from 47, was suddenly forced down to 42. Then those short of stock began to buy, and the price mounted above 44. Well supplied, they sold again, and once more 42 was touched. The price was over 43 when the bulk of operators went away, but a "tail" was formed outside in the rain, and with them the 1873 Loan closed 44⅛ to 44⅛—a fall of 2⅛. At Paris the fall was as much as 3*f.* The 1868 and Khedive Loans fell 2*l.*, and the 1864 Loan 4. The other departments were featureless.

MONDAY.—Egyptians closed to-day 43⅛ to 43¾, just 1 per cent. lower, having again been dealt in at 42. To-morrow the making-up price will be fixed, and a good deal of money will flow back to those who have stuck to their operations for a fall. The railway market was dull and depressed all day, and closed at about the worst point. Brighton, A, and Dover A, fell nearly 1 per cent. each, the traffic of the former showing a decrease of 2996*l.*, and that of the other one of 2357*l.* Caledonian dropped to 122, and Berwick to 149¾; London Omnibus, 139 to 140; National Discount, 8⅛ to 9; Standard Discount, 10s. to 3⅜.; Edinburgh Tramways, 10½ to 11½. In mines Gold Run were pressed for sale, and fell to 5s., 7s. 6d. Sweetland Creek were sold at 4s.; Javall, 9s.; and Parys Mountain at 12s.

TUESDAY (Making-up Day).—The adjustment of the account disclosed several material alterations since the last settlement. The Argentine (1868) were carried over at 31½; now it was 41¼. The making-up price of Egyptians (1873) was last time 48¾; to-day it was 43. In railways the most noteworthy change was in Dover A, from 111 to 108½. Operations for a fall and a rise were nearly balanced, except in Berwick, Birmingham, Midland, and York A, which again proved to be over sold, and where backwardations varying from ⅛ to ⅜ were exacted. Metropolitan, Caledonian, and Dover A showed a weak "bull" account, and the average contango was 7s. 6d. British fell to 92¼, Caledonian were continued at 121½, but recovered to 122¾. West Cumberland Iron, 8¾ to 9; Nant y Glo, 20 to 25; Newport Abercarn, 4 to 5; Altami Colliery, 5 to 5¼.

WEDNESDAY.—Railways rallied considerably, the traffics turning out much better than was generally anticipated. York, A, where an increase of 3184*l.* was shown, advanced 2, to 13½, while Sheffield even, which had a decrease of 1460*l.*, rose 1½, to 71½, and at one time was 1 per cent. higher than this. The rise in Dover, A, was ⅜, ⅝ in Berwick, and 1 in Birmingaam. Great Western remained dull and unchanged at 104, there being a decrease of 2694*l.* British closed 92½ to 92¾; and Metropolitan, 102½ to 102⅜; Argentine, 39½ to 40½; Peruvian, 13½ to 13⅝; Spanish, 14¼ to 14½; Turkish Fives, 13 to 13¾; ditto 1871, 25¾ to 25¾.

THURSDAY.—The railway market opened with a firm appearance, and finally closed strong, having overcome signs of weakness that were apparent soon after noon. Scotch buying sent Caledonian to 123¾, but British were neglected, and being quoted ex div. (1*l.* 15s. per cent), closed at 91. Birmingham were very strong at 144½. Midland closed 129¾ to 129⅞. Great Western (ex 1*l.* 17s. 6*d.*) were quoted 102¾ to 102⅝. Great Eastern were in demaud, and advanced to 40¾. Brighton and Brighton A were altogether neglected, and with Dover A showed hardly any alteration on the day. Chapel House were offered at 3¾, and Newport Abercarn were dealt in at 5.

FRIDAY (*Opening*).—The markets are quiet, but show a firm tendency, at last night's prices. Brighton, 116¾ to 117. Brighton, A, 99¾ to 99⅝. Birmingham, 144 to 144½. Dover, A, 109¾ to 110. Caledonian, 123¾ to 123½. British, 90 to 91. Chapel House are quoted 2¾ to 3¼. Credit Foncier, 1⅝ to 1⅞. Grand Trunk, 8 to 8½. Ottoman Bank, 6½ to 6¾. Alliance Bank, 12 to 12½. Argentine, 1868, spurt, but are now quiet at reduced quotations, although still lower than at the opening. Caledonians have been over 124, but are now 123¾. British, 90¾ to 91⅛, ex div. Brighton, 117¼. Brighton, A, 99½ to 100. A rise of 1 per cent. has taken place in Dover, A, to 110½, 111. Sheffield, 72⅛ to 72⅝. District, 47¼ to 47½. Consols are quoted 93 11-16ths to 95 13-16ths, and the same for the account.—*Four o'Clock.*—The temporary hesitation has been overcome, and the markets are closing strong. The rise in Dover is maintained, and Berwick are 150⅝ to 150¾; Metropolitan, 102½ to 102⅝; British, 91 to 91¾; Newport Abercarn, 4 to 5; Cardiff and Swansea, 1½ to 2. This is the first day of the new account.—*Birchin lane, Sept.* 15. FERDINAND R. KIRE.

Registration of New Companies.

The following joint-stock companies have been duly registered:—

SAO CYRIACO MINING COMPANY (Limited).—Capital 500,000*l.*, in 200 preference shares of 20*l.*, and 43,000 deferred shares of 10*l.* each. To acquire the mines of Sao Cyriaco and Zagaia, in the municipality of Serro, province of Minas Geraes, Brazil, together with all the right and interest of Dr. J. J. F. Rabello, and S. J. F. Rabello, conferred by the Brazilian Government. The subscribers (who take one share each) are—Arthur Stevens, 1, Lightfoot road, Hornsey, contractor's clerk; W. McArthur, jun., Ardmore House, Blackheath, merchants' clerk; J. A. Mass, 59 Park-road, West Dulwich, clerk to a solicitor; William Thomas, Hill Halden, Kent, land agent; E. Hammond, Worth, Sussex, gentleman, 1; W. G. R. Penley, South Grove, Peckham, accountant; John Graham, 3, Threadneedle street, merchant. The directors are not yet appointed, but they are to be not less than three or more than seven. The qualification is 20 shares. Mr. James E. Mills will be managing director, and his appointment is for two years certain. The office of the company is at 11, Queen Victoria street.

MONUMENT BONDED WAREHOUSE COMPANY (Limited).—Capital 60,000*l.*, in 10*l.* shares. To purchase the lease of the Monument Bonded Warehouse, Upper Thames street. The subscribers (who take one share each) are—Gloster Marshall, Monument Bonded Warehouse, Dyer's Hall Wharf, 95, Upper Thames-street; F. G. N. Poolin, 95, Upper Thames-street; S. Cochrane, 95, Upper Thames-street; Thomas Gilting, jun., 95, Upper Thames-street; W. A. Poolin, Edmondthrope Hall, Oakham; Thomas Gettins, sen., Waddon Cottage, Croydon; and H. Marshall, London, merchant.

GLANDARE WOOLLEN MILLS COMPANY (Limited).—Capital 20,000*l.*, in 20*l.* shares. To acquire and take over the Glandare Woollen Mills at Aberdare. The subscribers are—David Williams, Taff Vale Brewery, Merthyr Tydfil, 5; D. David, Aberdare, 1; R. Lewis, Aberdare, 1; D. Phillips, Merthyr Tydfil, 1; E. Roberts, Aberdare, 1; W. J. Thomas, Aberdare, 1; W. Dyke, Aberdare, 1.

GORRDALE PARK, SOUTHPORT, SMEDLEY, HYDROPATHIC COMPANY (Limited).—Capital 25,000*l.*, in 5*l.* shares. To acquire premises at Southport, in order to construct a hydropathic establishmefft. The subscribers are—Adam Pringle, Grove Park, Liverpool, 500; George Marsden, Linden Villas, Stroud, 400; Robert Wildgoose, Lea Mills, Matlock, 100; W. Fernley, Southport, 100; W. H. Hunter, Matlock Bridge, 100; N. Wheatcroft, Crawford, 100; D. H. Parkfield, Princes Park, Liverpool, 100.

D. MUNRO AND COMPANY (Limited).—Capital 25,000*l.*, in 10*l.* shares. To acquire the business of Mr. D. Munro, match and blacking manufacturer, of Lombourne Works, Bow Common. The subscribers (who take one share each) are—J. C. Elkin, 5, Great Winchester street; Z. Cartwright, 22, Water-lane; W. Wilkin, 112, Abbey-road, St. John's Wood; J. H. Wilkin, 58, Threadneedle-street; A. Macfadyen, 6, James-street, Portobello, N. B.; Alexander Munro, 20, Walden-street, Whitechapel; C. W. Cordey, 3, Clarence road, East Sheen.

STREATHAM FLORAL HALL AND PUBLIC RECREATION SOCIETY (Limited).—Capital 20,000*l.*, in 2*l.* shares. To build assembly rooms, floral hall, brilliard rooms, skating rink, &c., at Streatham. The subscribers (who take one share each) are—F. A. Cotterell, 13, Warwick court, Holborn; R. M. Gardner, The Green, Twickenham; L. Burgoyne Pillin, 14, Conduit-street; Robert Cox, Streatham; S. Hewitt, 101, Great Russell-street; W. Dennis, 25, Holborn Viaduct; J. W. Balfie, Streatham Common.

ADDERLEY PARK BRICK COMPANY (Limited).—Capital 16,000*l.*, in 10*l.* shares. To manufacture bricks, tiles, drain-pipes, &c. The subscribers (who take one share each) are—John Bell, Great King-street, Birmingham; J. Moffat, South-road, Camp Hill, Birmingham; W. B. Briggs, Bradford street, Birmingham; Robert Elson, Aston, near Birmingham; G. Burke, Aston, near Birmingham; Thomas Hurst, Aston; Thomas Mabbott, Soho Hill, Handsworth.

ADAMANTEAN CONCRETE COMPANY (Limited).—Capital 16,000*l.*, in 10*l.* shares. To acquire certain patent rights in connection with the manufacture of concrete. The subscribers (who take one share each) are—H. A. Sarl, 10, Cannon-street; Q. D. Gurton, 61, Kellett-road, Brixton; J. J. Heath, the Chestnuts, Willesden Green; John Simmons, 110, Cannon street; J. W. Sarl, Southwood-lane, Highgate; Jasper Mason, 10, Trinity-street, Southwark; F. W. Eisminger, 1 Gothic Villas, Avondale-road, Peckham.

BARRY ISLAND COMPANY (Limited).—Capital 10,000*l.*, in 10*l.* shares. To acquire an island in the Bristol Channel, known as Barry Island, and to construct a gridiron for ships, also to carry on business as hotel keepers, &c. The subscribers are F. S. N. Johnson, Cardiff, 50; S. A. Tylke, Cardiff, 50; James Harman, 15, Charles-street, Cardiff, 50; J. Hopkins, Llandaff, 25; J. H. White, st. Mellons, Cardiff; W. Evans, Cardiff, 25; W. J. Begg, Cardiff, 10.

JOSEPH HIBBERT AND COMPANY (Limited).—Capital 5000*l.*, in 5*l.* shares. To acquire a brass founders business at Darwen, Lancashire.

THE RICHMOND MINE.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—My attention has been directed to a letter in the Journal of last Saturday, signed by Mr. Postlethwaite, without an address. I therefore take this means of informing him that the pamphlet on the Richmond Mine was placed on sale at the Royal Exchange as soon as the edition was ready. A few proof copies, however, appear to have been placed in circulation the day before. With respect to the assertion that no one had been at the offices of the American Agency for four months, I have to state that he has been misinformed. GEO. MCHENRY.

American Agency, Great Winchester-street Buildings, Sept. 15.

[For remainder of Original Correspondence see this day's Supplement.]

FOREIGN MINES.

I.X.L. (Gold and Silver).—L. Chalmers, Aug. 21: The water in the engine-shaft is now down 196 ft., and I hope in 24 hours to be in fork, drifts and all; pump working splendidly. I am stoping 6·0 ft. from the mouth of the lower tunnel, and getting into some good ore; this stope is up 10 ft.

EXCHEQUER (Gold and Silver).—Lewis Chalmers, Aug. 21: Since writing you on the 14th the developments in the 200 foot stope have been of the richest kind. In a magnificent lode we have ore rich in ruby, both light and dark, through which is interspersed native silver, and that with no niggard hand. I am glad this should have been run into during the visit of Messrs. Mansell and Parrick, who have seen it, and cabled to you what they have seen. The end of the 200 also promises well, so does the 300 end and stope. I have commenced cross-cutting to the lode at the 400, hauling to the mill daily. The grading for the engine-house is completed. The alterations at the mill are going on satisfactorily.

LANESTOSA.—Sept. 7: Asuncion: In the 130 metre level south, the ground appearing more unpromising as the cross-course is neared, the driving is suspended. In the tribute pitches, a little ore still holds about the Cave level.—Glanrafon: The 30 metre level north from Peace shaft having entered a run of sandy ground on line of lode with little hope of change, the end is stopped. The same level south is in calcareous shale, only distinguished from inclosing rock by having threads of lead through it.—La Berta: Guillermo shaft, sinking below adit, has passed through branches of calc and fluor-spar, spotted with lead, and dipping east, which represent No. 4 lode; the ground now appears to improve. La Cruz deep adit, driving north, is in broken ground (from former workings), consisting of tough clay, holding loose stones of fluor spar and lead. San Vicente shaft, from surface, is commenced on southern part of lode outcrop, and now passing through loose ground. In the raising of calamine from old mines, the lode being scarce and poor, all the points have been abandoned except San Juan, where the men continue their search. The ore returned for August is 9 ton lead, 32½ tons calamine, and 8½ tons mixed ores. Should rains fall, a small quantity of lead will be returned in the present month.

FORTUNA.—Sept. 6: The lode in the 120, west of O'Shea's engine-shaft, has become unproductive. In the 110, west of Judd's, the improvement continues, and the lode yields 1 ton lead ore per fathom. The 30 east of San Carlos shaft is temporarily suspended for want of ventilation, but will be resumed when the heat ceases. The lode in the 40, east and west of Abercrombie's shaft, yields ½ ton per fathom in each end. The 60 west of San Pedro's is opening a good length of valuable ground; at present it is worth 1 ton per fathom. The 70 west of this shaft yields ½ ton per fathom, and the same level east is in a very promising lode worth 1 ton per fathom, and judging by the level above it will do well for some time to come. The 60 east of San Frederico's, being near the boundary and poor, is suspended. The 120 east of O'Shea's engine-shaft is in a powerful and well-defined lode worth ½ ton per fathom. The 110 east of Addis's has opened a good length of valuable lode, but is quite poor at present. The 90 east of Addis's shaft is in a large lode, but unproductive. The 80 west of Kennedy's shaft is in a very changeable lode; at present worth ½ ton per fathom. The 90 west of this shaft is in a small and regular lode. The 90 east of Caro's is near a strong cross course, and is, therefore, disordered and poor. The lode in the 80, east of this shaft, has undergone an unfavourable change in the past week. In Lown's shaft, sinking below the 60, the men are working very regularly, and the lode yields ½ ton per fathom. In Abercrombie's shaft below the 40 the lode continues with great regularity, and yields 1 ton per fathom. Addis's shaft below the 100 is off the lode, and without change. Serrano's winze below the 30 is in a small and unproductive lode. Green's winze below the 40 is going down in a compact and regular lode worth 1 ton per fm.

Los Salidos: The 130, east and west of Buenos Amigos engine-shaft, is without

ew, but in the former end it is open and promising. There is no improvement in the 120, west of this shaft. In the 110, west of San Carlos shaft, there is a small branch of ore, but not enough to value. The 130, w st of Morris's shaft, is in a small lode, without ore. In the same level east the lode is open, and much more promising than it was. The men of the 120, east of Cox's shaft, are cutting a plat at that level. The lode in the 110, east of San Pablo, is harder, yielding 2 tons per fathom. In the 25, west of Swaffield's shaft, the lode has fallen off very much, and now yields ½ ton per fathom. There is no improvement in the 35, productive, and yields ½ ton per fathom. The same level, east of cross cut, is also less west of Swaffield's shaft. The 45 west is opening good ore ground, worth 1½ ton per fathom. The 55, west of Palgrave's shaft, is passing through a hard bar of ground, but an improvement is expected shortly. In the same level east the lode is disarranged. The 65, west of same shaft, is in a small and poor lode, and the ground is hard for driving. The same level east is in a large lode, containing good stones of ore. The 25, east of Peill's, having reached the eastern boundary, is suspended; the lode yields ½ ton per fathom. In Rosa's winze, sinking below the 55, the ventilation is bad, rendering sinking extremely difficult; the lode produces ½ ton per fathom. Leon's new winze below the 55, east of Palgrave's engine shaft, is in advance of the 65, is in a lode worth 1 ton per fathom. The weekly samplings were kept up very regularly during the past month, and the stopes are now yielding fairly well. The works at surface are going on very regularly, and the machinery is in good working condition. We estimate the raisings for September at 140 tons.

LINARES.—Sept. 6: Pozo Ancho: The 100, driving east of Warne's engine-shaft, is in a hard and less productive lode than for a long time, yielding ½ ton per fathom. The lode in the same level contains good stones of ore. There is no improvement in the 85, west of Crosby's cross-cut. The 105, west of Peill's engine-shaft, is in a small lode, consisting chiefly of quartz. The lode in the 90, west of this shaft, is promising, and produces 1½ ton per fathom. The 75 and 65 west are both unproductive ends. The lode in the 55, west of Peill's, is coming west, and much improved, yielding 1 ton per fathom. The 105, east of the same shaft, is in a very irregular lode, sometimes producing good lumps of ore, and worth 1 ton per fathom. In the 90, east of San Francisco shaft, the lode is small, yielding 1 ton per fathom. The 75 and 65, east of this shaft, are both unproductive. Peill's engine shaft, below the 105, is set to a good party of men to sink the 120 fm. level. No. 208 winze will be holed to the 90 in a few days; the lode produces 1 ton per fathom. In No. 209 winze the lode yields 1½ ton per fathom; this will be holed to the 100 in the present month. No. 210 winze, situated east of Peill's shaft, below the 95, is in a lode worth 1 ton per fathom. No. 211 new winze, west of Peill's, in the 75, also produces 1 ton per fathom. The raisings were kept up very well in the past month, and the stopes are now, on the whole, looking fairly well. The surface works are going on very regularly, and the machinery is in good working condition. We estimate the raisings for September at 200 tons.—Quinientos Mine: The lode in the 90, west of Taylor's engine-shaft, has fallen off in value, now producing ½ ton per fathom. The 80, west of this shaft, is of no actual value; the lode, however, is large and strong. The 90 and 80, east of this shaft, are unproductive. There is no improvement in the 65, east of Addis's shaft. The lode in the 65, west of San Carlos, has a much better appearance, and yields ½ ton per fathom. In the 80, west of this shaft, the lode is large, open, and easy for driving. In the same level east the lode is wide, and hard for driving, yielding ½ ton per fathom. The 65, east of San Carlos, continues unproductive. The 45, east of Judd's shaft, is in a firm, compact, and regular lode, opening good ore ground, worth 2 tons per fathom. In the 32 cross cut, north of Judd's, nothing has been met with. Addis's shaft has been holed to the 50 fm. level. In Judd's shaft, below the 55, the lode is improving, now worth 1 ton per fathom. The lode in Gallego's winze, below the 32, is less productive, yielding ½ ton per fathom. Cerezuelo's winze, below the 65, is being sunk in a good shoot of ore, worth 2 tons per fathom. Eduardo's winze, below the 80, is in a promising lode, worth 1 ton per fathom, and easy for sinking. We estimate the raisings for September at 100 tons.

ALAMILLOS.—Sept. 6: The lode in the 60, west of San Francisco shaft, is improving, and produces ½ ton lead ore per fathom. The 50, west of San Felipe's shaft, is in contact with the slide; in the part over it the lode is good, yielding 1 ton per fathom. The 40, west of this shaft, is in a strong and promising lode, with good stones of ore, and worth ½ ton per fathom. The 25, west of Abercrombie's shaft, has failed very much lately. The 40, east of Juan's winze, is in a disordered and poor lode. The lode in the 50, east of La Magdalena cross-cut, is of no value at present. The lode in the same level west when not in contact with the slide, is productive, and yields ½ ton per fathom. In the 50 cross cut, north of San Enrique shaft, we expect to intersect the lode in the present month. In the 65 cross cut, north of this shaft, some branches have been met with, but they are of no value. In the 100, south of Taylor's engine-shaft, in all probability the lode will be reached in the present month. In the 85, west of San Adriano's, the shaft-men are rising against Marto's winze. The 60, east of San Victor's, is in hard granite, and the lode divided into branches. The lode in the same level west is very much improved, yielding 1 ton per fathom. The lode in the 40, west of San Carlos shaft, is very small at present. The 40, east of air-shaft, is in a regular and promising lode, and worth ½ ton per fathom. In the 50, east of Crosby's, the men are cross cutting north in search of the main lode. The lode in the 50, east of Judd's shaft, is split into branches, some of which produce good stones of ore. The 60, west of this shaft, yields good stones of ore. The 70, west of Judd's, is in a regular lode, and yielding 1½ ton per fathom. The lode in the 50, east of Judd's cross cut, is small, with a branch of ore worth ½ ton per fathom. The same level west is in a small lode, and without ore. The lode in the 30, west of adit shaft, is very changeable, and at present worth ¼ ton per fathom. The lode in the 30, east of Brigge's shaft, is of no value. Abercrombie's shaft is down to the 40, and the men are driving west to meet the level from Juan's winze. The lode in Rega's winze, below the 65, has improved a little, and yields ½ ton per fathom. There is no alteration in Marto's winze below the 50. Fecundo's winze, below the 30, is in a strong lode, with good stones of ore. In Sanchez' winze, below the 25, the lode has been cut under the slide; it is small, and produces ½ ton per fathom. Marquez' winze will be holed to the 30 in a few days. Pedro's winze, below the 30, is in a strong lode, yielding good lumps of ore, and worth 1½ ton per fathom. The tribute department has not undergone any change of importance in the past month. The surface works are being kept on with the usual regularity, and the machinery throughout the mine is in good condition. We estimate the raisings for September at 200 tons

For remainder of Foreign Mines, see to day's Supplement.]

NEW ZEALAND KAPANGA.—The directors' report, to be presented at the meeting on Sept. 27, embodies Capt. James Thomas's report for the year ending May, 1876, which shows a satisfactory amount of work to have been done during that period. Since previous report the work at the mine has been steadily proceeded with, the shaft completed to a depth of 50 fms., a cross-cut extended over 400 ft. to cut the lode, stamp erected, and other necessary work attended to. Since the report, the telegram already referred to in the Journal—"Lode yielding rich gold"—has been received. The directors state that it is with considerable satisfaction they congratulate their fellow shareholders upon the lode being reached. Many difficulties have interfered with the progress of the works, and caused delay. These have been happily surmounted, and, seeing that Capt. Thomas refers to the well-known fact that large returns of gold were made by the former owners, while the lode where cut by us shows exactly the same description of ground as that in the old workings, there would appear to be little doubt as to the future success of the company when the runs of gold are reached. Capt'n Thomas remarks that the out-turn of gold realised from the runs mentioned, from surface to the No. 4 level, was worked by five or six small companies in the most primitive way, is well known here to exceed 80,000*l.* He therefore considers this company stands in a very good position for the future. From the extent and completion of the underground workings, with the cross cut driven within a few feet of intersecting the lode, and with the efficient and powerful machinery erected on surface, the company has as sure a chance of success as it is possible to have, or as far as any human opinion can foretell. Magnificent returns were made by the late companies holding the mine, and the same continuation of veins of gold-stone are known to be in the bottom of the old workings, and we have yet to get to those points of the mine before the company can expect to meet with returns.

I. X. L. GOLD AND SILVER MINING COMPANY.—Messrs. Mansell and Co. write to a private friend as follows:—"*Aug.* 19: We have made a thorough inspection of the I. X. L. Mine, extending over several days, and confidently express our entire satisfaction as to its favourable condition and prospects. Each department is already in an efficient working condition; the pumping machinery at the Basting works is doing its work admirably, and at the time of writing the underground workings are free from water, so that in something like 16 weeks hence the 200 ft. level (367 ft. from surface) may be expected to be under the perpendicular of the rich bonanza, which made this mine so famous in 1863-4. We find (upon a rough calculation) that the reserves of ore already available are something like (from the upper to lower tunnel) 29,423 tons, that is exclusive of the immediately important development in the 200 ft. level. Calculating this reserve of nearly 30,000 tons at an average of only 350 per ton (and 29 assays show an average of over 400 per ton) the money value represented is 300,000*l.*, or treble the capital of the company. A 20-stamp mill has been contracted for, and will be erected with all possible despatch upon a valuable site possessed by the company surrounded by its own timber ranches. The general outlook is certainly most encouraging, and it is difficult for one having any experience whatever in such matters to predicate anything but an early success. Each department will be most fully detailed in our forthcoming report.—F. W. MANSELL and Co.——P.S.—Do not lose sight of Exchequer, for the mine is looking astonishingly well."

CHEMICALS, MINERALS, AND METALS.—(Messrs. J. Berger Spence and Co., Sept. 13)—Alumina: Alum, 6*l.* 15s. for loose lump; ground, 7*l.* 15s.—Aluminous cake, 4*l.* 15s.—Ammonia: Sulphate, grey, 18*l.* 15s.; best London white, 20*l.* 5s.; muriate, 30*l.*; sal ammoniac, firsts, 45s.; seconds, 44s.—Acid: Tartaric, English, at ls. 4½d., ground or crystal; foreign, 1s. 3 d., crystals; oxalic, 5d.; sulphuric, 3*l.* 10s. to 3*l.* 15s.; picric acid, 1s. 8d. per lb.—Arsenic: 10*l.* 10s.—Bleaching Powder: 5*l.*; for whole of 1876, 6*l.* 5s. to 6*l.* 15s.—Litharge: Best cake, 24*l.*—Metallic Salts: Iron salts, green and rusty copperas, 55s.; in casks or barrels, 60s.—Copper Salts: Sulphate of copper, 23*l.* 10s.—Magnesia: Epsom salts, 5*l.* 17s. 6d.; refined, 4*l.* 10s.—Nitrate of Soda: 12s.—Potash: Muriates, 90 per cent., at 8*l.* 8s. 6d. f.o.b.; Prussiate, yellow, 11d.; chlorate, 8½d.; bichromate, 4½d.—Soda: Cream caustic, 60 per cent., 11*l.* 17s. 6d.; white, 60 per cent., 12*l.* 7s. 6d.; soda ash, 1¼*d.* to 1 13-16d.; soda crystals, 4*l.* 10s.; bicarbonate, 10*l.* 15s.; salt cake, 2*l.* 15s.; Glauber salts, 2*l.* 17s. 6d.—Sugar of Lead: Brown, 25*l.*; white, 37*l.* 10s.—Brimstone: Best thirds, 5*l.* 17s.—China-clay: 15s. to 30s. Cornwall; "Rosemellyn," 24s.; "BM," 34s.—Iron Ore: Hematite, 15s. to 22s. 6d.; colitic, 8s. to 10s.; Algerian, 50 p. c., 23s. to 24s., c.f.i. U.K.—Manganese: Ores, 90s. for 70 per cent.—Pyrites: Spanish cupreous, 5½d.; non-cupreous, 9¼—Phosphate of Alumina, 3*l.* to 3*l.* 10s. per ton.—Phosphates: High strength, 80 to 85 per cent., 1s. 4d. to 1s. 5d. per unit; Estremadura, 1s. 3d.; ordinary, 90 per cent., 1s.; precipitated phosphate of lime, 70 per cent., 5*l.* 15s.—Copper: Chili bars, 71*l.*; B.S. ingot, 78*l.*; tough cake, 77*l.*—Iron: "Ayresome" (foundry), 43s. 6d.; No. 4 (forge), 41s 6d. net cash, or 1s. extra four months' bills; Scotch pig, warrants, 56s.—Lead: Best English soft pig, 21*l.* 10s., delivered in Manchester.—Quicksilver: 8*l.* 8s.—Spelter: Silesian, 23*l.* 10s.; English, 23*l.* 10s.—Tin: Straits, 71*l.* 10s.; British, 76*l.*—Tin plates: Best charcoal, 28s.; best coke, 24s. per box.—Tubes and Fittings: Discounts on application.—Belvedere guano, 7*l.* 5s. per ton.—Esparto: Oran, fair to best, 7*l.* 5s. to 8*l.* 5s.; Susa, fair to good, 8*l.* 10s. to 9*l.* 5s.; Spanish, fair to best, 11*l.* 15s. to 12*l.* 5s. per ton; Tripoli, good ordinary, 6*l.* to 7*l.* per ton.—Globe Steam Boiler Powder: 20s. per cwt. in casks.—Resin: Common strained, 5s. per cwt.; medium, 6s. 3d.—Super-phosphates: 80 per cent. soluble, 8s. 6d. per unit; 25 to 26 per cent., 3*l.* 10s.

WANTED,—A SCIENTIFIC MAN, who has studied Mining at Clausthal in the Hartz, as well as at one of the Home Colleges, and who has since been engaged in Surveying, Reporting, and Assaying, desires EMPLOYMENT in LONDON, or elsewhere.
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ASSAYER AND ANALYTICAL CHEMIST,
SWANSEA.

THE NARROW-GAUGE MOUNTAIN RAILWAY FROM ROSTOKEN TO MARKSDORF IN HUNGARY.*

The Austro-Hungarian Blast-Furnace Company own extensive beds of iron ore near Rustoken, at an elevation of 920 feet above the Kaschau-Oderberger Railway, and 1872 it became the author's duty to lay out a locomotive line for the transport of an estimated yearly output of about 50,000 tons of ore to the station at Marksdorf, where the roasting was carried on; the gauge of the new line was optional, as no transfer of rolling stock between the two lines was necessary. The line was carefully laid out, but, owing to the nature of the country, extremely circuitous. The greatest bank, however, was only about 33 ft., whilst all tunnelling was avoided. The geological formation was decomposed slate and red sandstone. It presented a rough and abrupt outline, necessitating curves of 164-ft. radius. The higher portion of the line was about 3·1 miles long, with a rise of 1 in 375, the total length being 12½ miles, and the average gradient 1 in 40. The width of the gauge being 2 ft. 4½ in., and the wheel base 5 ft. 3 in., the minimum radius of 164 ft. was practicable, for Von Weber found that, in constructing the Bröthtal Railway, with a speed of about 9 or 10 miles an hour, the minimum radius could be 148 ft., the gauge being taken at 2 ft. 8½ in. Deducting the number of non-working days and allowing for gradients, &c., it was found necessary to compose every train of 15 trucks, carrying 5 tons each, with a capacity of 3·27 cubic yards, and with a speed of nearly 5 miles an hour. The length of the trucks was twice the wheel base, and the breadth rather less than double the gauge, the height being half the breadth. These dimension were arrived at from the specific gravity of the ore, which was 2·0. The heavy weight of the ore produced considerable wear and tear, and necessitated strong frames for the trucks, which were composed chiefly of iron in a proportion of about 40 or 50 cwts. per truck, and furnished with strong springs. Thus an empty train of 15 trucks had a gross weight of from 600 to 750 cwts., which had to be dragged up an average incline of 1 in 40 for about 8 miles. As this required an engine of 15 tons, and with two wheels the load of 7 tons per axle would have required a rail of 55 lbs. per lineal yard, it was determined to use a locomotive with three wheels coupled and tender. Bessemer steel rails of 38 lbs. per lineal yard we finally adopted. The principal duty of the engine was to carry back the empty trucks up 1 in 40, and thus the break power became a serious question, the dead weight of the trucks being ingeniously used to assist in this purpose. Careful cross sections were everywhere taken when laying out the line.

Watering places along the route of the steep incline were found essential, and in erecting them the signalling stations were fixed at the same points, and when practicable they were placed near public roads, so as to lessen the dangere incident to level crossings. The natural rock was largely used for ballast, with good results. The line was begun in April, 1873, and completed in September, 1874. Where it is single the average width of formation is 6½ feet, but it varies with circumstances. The cuttings in rock permitted a slope of about 1 in 6; where the material for embankments was rock, the slope was about 1 to 1¼, and 1 to 1½ where it was earth. The nature of the strata forbade tunnelling. The total cost of the line, about 44,000*l.*, including rolling stock, but exclusive of land, was equal to about 3800*l.* per mile. The iron trucks cost about 107*l.* each.

— PAUL KLUNZINGER, Allgemeine Bauzeitung.

* From JAMES FORREST'S "Abstracts of Papers in Foreign Transactions and Periodicals, for the Proceedings of the Institution of Civil Engineers."

IMPROVEMENTS IN TRACTION ENGINES.

In connection with the front or small wheels of the engine constructed according to the invention of Mr. B. LEFEBURE, of Chancery-lane, a cylinder made of cast iron or malleable iron is employed, the under part of which cylinder is open, the upper part being closed and having fixed or cast therein a boss, said cylinder being fastened to the boiler or any other part or parts of the engine. In the boss a shaft is fixed in order to prevent it from turning, and a second cylinder is fitted exactly, or with a little spare room, in the first-mentioned cylinder. The upper part of the second cylinder is left open, the lower part having a bottom with or without flanges and boss, and through which the before-mentioned shaft passes. The second cylinder is fixed to the axle of the small wheels; the inside of the bottom of said second cylinder being turned, and the lower part of the second cylinder on the outer and under side may be of a rounded or globular form, to fit in a hollow globular basin of the same diameter, which is fastened to the axle of the small wheels. This arrangement allows one wheel to move higher than the other, for which purpose an oblong slot or hole is made in the axle of the small wheels, the breadth of which slot is equal to the diameter of the shaft described as fixed in the first cylinder, and of a length (in the direction of the centre line of the axle of the small wheels) equal to once or more of this same diameter; the hollow globular basin has a hole of like shape and size. When this arrangement is employed one or more keys are fastened in the bottom of the second cylinder in order to prevent it from turning round the shaft, in which keyholes are made. The second cylinder is made of any desired material, as also is the hollow globular basin, and is placed in the first-mentioned cylinder so as to slide up and down, and turn in it when fastened directly to the axle of the small wheels, and only sliding up and down when the loose basin is used. A boss with a large flange made of cast steel, cast or wrought iron, through which the shaft has keys fitted to it to prevent it from turning with the second cylinder, and one or more keyholes are made in the shaft to allow this boss to slide up and down; said boss being placed on the inside bottom of the second cylinder.

The arrangement in connection with the large or back wheels consists in one or two springs placed as near possible to and on the inside of the road wheels. These springs are made of steel, and of ordinary form used for railway carriages, and are secured under or above the axle of the road wheels, and midway their length with or without wrought iron, strap, and brass fittings. When two springs are used for each wheel they are then placed with their hollow sides to each other, one of them secured at its middle to the axle, and the other to the boiler frame or any other part or parts of the engine, said springs being joined at their extremities by a bolt. If one spring is used it is secured at both its extremities to the boiler frame or any other part or parts of the engine. The springs may also be secured indirectly on the axle of the road wheels by fastening them to bars or beams placed on each side of the engine, and fastened with one end on the axle of the road wheels, and the other end on the axle on which a pinion or spur wheel is fixed, and works on the spur wheel or pinion fixed on the axle of the road wheels. The second axle (on which the pinion or spur wheel is fixed, that turns the spur wheel or pinion fixed on the axle of the road wheels) is now connected with a third axle by a connecting rod, the same in every respect as the one first mentioned. The length of this rod is equal to the distance of the centres of the second and third axles, and replace the first-mentioned rod, the length of which is equal to the distance of the second axle and the axle of the road wheels. The third axle is the axle on which a pinion or spur wheel is fixed, working on the second spur wheel or pinion fixed on the second axle. The last two connecting rods, placed as near as possible to the beams (one for each wheel), are fixed directly or indirectly on the second and third axles. The springs are easily fixed to or under the beams.

Besides the two rods connecting the third and second axles, two other rods are fixed directly or indirectly with one end on the axle of the road wheels, and placed, each of them as near as possible to the beams, and the other end of these rods is fixed to the boiler, frame or otherwise in the same direction as the rods connecting the second and third axles, and preferably of the same length and parallel with them; these rods are made of any kind of iron or steel, and have brass fittings and keys if required. A loose collar on each side of the frame or boiler is fixed with a screw or screws on the axle of the road wheels and against the frame or boiler (with or without spare room), in order to prevent the axle and road wheels from going too much out of the centre of the engine. A wrought, malleable, or cast iron or steel bracket is fixed with bolts, screws, rivets, or any other means to the boiler frame or any other part or parts of the engine, in which bracket is fixed a bolt or small shaft with or without nuts and collars, and which may be fixed separately with or without the bracket to the boiler, frame or any other part or parts of the engine. Two of these brackets and shafts are used for each spring. If only one spring for each wheel is secured to the axle, and one bracket and one shaft or bolt; if two springs are used together for each wheel and connecting rods, one for each bracket and shaft are used for connecting said shaft with the extremity or the middle of a spring.

CWM DWYFOR COPPER AND SILVER-LEAD MINES—SPECIAL REPORT.

Sept. 13.—I beg to lay before the directors a few remarks respecting the present condition and future prospects of these mines.—Stewart's Shaft: This shaft has been sunk 9 fms. 3 ft. 6 in. below the 10, on the No. 4 lode south. At a depth of 8 fms. 1 ft. 6 in. we came in contact with a clay-slate formation dipping in a north-west direction, which I believe has thrown the lode north of the shaft, as we find nearly all the water coming from that direction, and at times we meet with large patches of good-looking quartz, impregnated with lead and sulphur, in the bottom of the shaft on the north side. I strongly recommend the sinking of this shaft a few feet deeper, so that a level may be started west from the shaft as, judging from the dip of the slate strata, there will be only from 2 to 3 fms. to drive in that direction before we meet with the run of lead ground driven through in the 10, where the lode was richer and larger in the bottom of that level than in any other part of the drivage. By extending a 20 fm. level further west we shall also intersect the slide met with at the 10, where the lode proved very productive for lead, and there is everyting in the character and appearance of the lode driven through to lead any experienced miner to calculate on having a much more valuable lode at the 20. I should also advise the sinking of a winze in the bottom of the 10 at the junction of the No. 4 lode south and the caunter branch, to render that section of ore ground available for stoping. I calculate that with six men to sink this winze and six to drive a 20 fm. level west we should in about six months open up about 90 tons of lead ore (discovered in that piece of ground alone), but time must be given to open up the lead ground east and west of Stewart's shaft. By driving a cross cut north from Stewart's shaft, at the 20, we should within about 8 fms. driving intersect both the No. 4 lode south and the No. 3 lode south, 10 fms. below our present workings; this cross cut would, by the intersection of the No. 3 lode south at that depth (20 fms.) throw great light on the future prospects of the mines.—10 fm. level on caunter branch, west of Stewart's shaft: We have laid open a piece of stoping ground over the back of No. 4 level south, on the caunter branch, which, with the lead ground almost available in the bottom of the 10, east and west of Stewart's shaft, will, I calculate, yield from 130 to 140 tons of lead ore.—10 fm. level on No. 3 lode south: The lode in this level, driving west of the south cross-cut, is 2 ft. wide, containing lead, copper ore, and sulphur; the driving of level being of an exploratory nature could be suspended for the present; at same time it is a good point for operations, as the level would go under a hill 2000 ft. high in virgin ground, and in close proximity to the rich mines on the other side of the mountain. In conclusion, I beg to say that when stoping is recommenced the returns will greatly increase, and when in full working order, with the ground properly laid open, I fully believe satisfactory results will be obtained. I strongly recommend the shareholders to complete the development of the mines with all the energy which I believe them to deserve.—JOSEPH JEWELL.

SOUTH WHEAL FRANCES.

A meeting of adventurers was held at the mine, on Tuesday.—Mr. SAMUEL ABBOTT, the purser, read the accounts, which showed a balance against the mine of 159*l.* 18s. 1d.—In answer to a question from a shareholder, Capt. JAMES said the expenditure was in excess of what it was in the previous four months, the labour cost having increased by about 150*l.*, and the merchants' bills 10*l.* He hoped, however, that at the next meeting they would not be so high, and he thought they might be reduced by at least 100*l.* in the next four months.

Mr. R. H. WILLIAMS asked when they expected to cut the lode at the 205 ?—Capt. JAMES believed it would be cut in about a month from the present time. His strong opinion was that it would be cut in less time than that, but he was not prepared to pledge himself that this would be so. According to the dialling they must now be very near the lode.

The CHAIRMAN announced that within the last week he had received relinquishments amounting to 548 shares, and on the names of the persons who had relinquished the shares having been read, it was pointed out that without exception they were the friends of Mr. T. B. Laws.—Mr. PENROSE asked whether the relinquishing shareholders had paid all their calls up to the present time?—The PURSER replied in the affirmative.

Mr. WILLIAMS said it was evident that the object of these relinquishments was to shut up the mine, but they were not likely to have any such effect, and he could not help thinking that the gentlemen whose names had been read had been most ill-advised in relinquishing their shares at such a moment. The mine was never so near attaining the object that had been sought after than now, and it was greatly to be regretted that at such a juncture the successful operations of the mine should be imperilled by any such an attempt as that which had been made that day. At first sight he was rather disposed to regard it as a somewhat serious matter that between 500 and 600 shares should be relinquished all at once, but on reflection he saw that at the present rate of call it would make a difference of only about 41*l.* a month to the remaining shareholders, who he believed, were quite capable of carrying on the mine, even with this additional burden.

Mr. PENROSE mentioned that some time ago they had even a larger number of shares relinquished than had been sent in that day. They were carried to the relinquished share account, and the mine had really benefited by them, inasmuch as they were sold, and the proceeds were carried to the credit of the mine. And he had no doubt that if they should cut a good lode the present relinquished shares would be as saleable as the others were before. With such a point of interest before them as the manager had indicated, he did not think they would be justified in allowing others to come in and reap the advantage of the outlay which they had made.

Mr. WILLIAMS considered that the prospect of a successful future had doubly increased since the last meeting. Before now the poverty of the lode might be attributed to the rock it was in, but now the ground was entirely altered, and the indications justified them in believing that they were on the eve of proving a very important feature in the mine. In his view it was very essential that their operations should be carried on with the utmost vigour, and that the lode should be cut at the earliest possible moment. Not an hour ought to be lost.—Capt. JAMES said he would undertake that no time was wasted. They were going on now with all possible speed.—It was then unanimously resolved to carry the shares to a relinquished share account, and dealt with as the adventurers might determine at some future time.

It was further resolved to make a call of 6s. per share, Capt. JAMES stating that if they confined their operations to the great lode they could reduce their cost by about 50*l.* a month, and that if they cut a lode worth 15*l.* or 20*l.* per fathom that would give them a credit of about 80*l.* a month on the same labour cost. Although power was taken in the notice calling the meeting to forfeit any shares upon which calls had not been paid, it was considered unadvisable to adopt such a course, and it was decided to leave the matter in the hands of a committee to take what steps they might think desirable to recover the arrears of calls.—*Western Daily Mercury.*

CONVICTIONS AGAINST COLLIERY PROPRIETORS.—At the Littledean Police Court, before Major Probyn and the Rev. Charles E. Deighton, James Alfred Brain, a colliery proprietor, of Drybrook, Dean Forest, was charged by Mr. Thos. Cadman, Inspector of Mines, with—1, being the owner of a certain coal mine, "Who'd have thought it," he did not cause the top and all entrances between the top and bottom of the workings or pumping shaft to be properly fenced, according to 14th general rule for working coal mines; 2, being the owner of a certain mine, that he neglected to conform with the 3rd general rule, in not having examinations made or reports kept respectively in that manner set forth in the 3rd general rule; 3, being the owner of a certain mine pit, "New Estate," unlawfully neglected to conform to the 29th general rule for working coal mines with respect to daily inspection of mines and weekly shafts and guides, and report thereon and record thereof. Mr. Cadman was called in support of the informations, when defendant was fined 5*l.* and costs.—Samuel Baldwin, of Nailbridge, was charged with being the owner of a certain mine, "Squib Pit," at East Dean, and neglecting to conform to the 3rd general rule of the Coal Mines Regulation Act, with not having examinations made or reports kept respectively in the manner set forth in the 3rd general rule; 2, that he neglected to provide two shafts in the manner set forth in the 20th section of the Coal Mines Regulation Act; 3, for neglecting to comply with the 3rd rule in respect to making daily examinations and records; and 4, being the owner of a discontinued mine, neglected to cause the top of the shaft to be securely fenced. Defendant admitted that he had omitted the daily records, but stated that he intended shortly to add the second shaft. He was fined 5*l.*, and costs.—James Griffiths, of Nailbridge, near Cinderford, was also summoned, and charged with neglecting to have the top and the shafts of certain pits fenced, as provided by the 13th general rule for the working of coal mines. Defendant was fined 5*l.* and costs. Mr. Cadman proved the case.

The Scottish-American Investment Company announce the issue of 1000 10 per cent first consolidated mortgage bonds, of $1000 each, of the Susquehanna and Albany Railroad Company, principal and interest guaranteed by the Delaware and Hudson Canal Company.

Mining Correspondence.

BRITISH MINES.

BEDFORD UNITED.—R. Goldsworthy, Wm. Phillips, Sept. 14: On Saturday last the following bargains were set. The 127 east by six men, at 12*l.* per fathom; lode worth 15*l.* per fathom. The 127 west by four men, at 12*l.*; lode producing saving work. The 115 east by six men; the lode at present yielding saving work only, with indications of being near the cross-course. A stope in the back of this level by four men, at 5*l.* 10*s.*; worth about 8*l.* per fathom. The 115 west by four men, price per fathom 11*l.* 10*s.*; lode improved, now worth 10*l.* per fathom. A stope in the back of this level by four men, at 5*l.*; worth 15*l.* per fathom. The 103 east by four men, at 13*l.* 10*s.* per fathom; the lode being worth 12*l.* per fathom. A stope in the back of this level by two men, at 5*l.* 10*s.*; worth about 8*l.* per fm. The 103 west by four men, at 12*l.* 10*s.* per fathom; this level has just intersected a cross course which has heaved the lode a little to the south, so that its size or value at present cannot be given.

BLUE HILLS.—S. Bonnetts, A. Gripe, Sept. 8: The lode in the rise above the 80 continues to open out satisfactorily; it is now seen ores 6 fms. in length down on the gossan, and is tinny throughout. The east end is at present worth from 8*l.* to 10*l.* per fathom, and the west end 6*l.* to 7*l.* per fathom; in this end the lode is small, but very good.

BODIDRIS.—H. Hotchkiss, Sept. 13: The mine is now in full working order. The 30 yard level, driving east of junction shaft upon the main lode, has improved since we commenced operations, and will now produce fully 2 tons of lead ore per fathom, besides blende. The lode has increased in size from 3 to 5 ft., and there is every indication of its becoming still richer as we approach the junction with the Craigiog lode. The 45 yards level, east of junction shaft, is being driven upon a fine-looking lode, but it is not sufficiently advanced to get into the run of ore now being worked in the upper level. We have, however, broken some good lead from it, and are laying open stoping ground. The stope in the 30 yard level, west of shaft, will produce 1 ton of lead per fathom. We have a good pile of lead stuff upon the surface ready for dressing, but we find it necessary to make a few alterations to the dressing-floors—building two new kilns, and putting in additional flat buddles, &c. This work is being pushed on as rapidly as possible, and when completed will enable us to commence making regular returns.

CARGOLL.—J. Jennings, Sept. 13: The 24, east of Doctor's shaft, is very much improved in appearance, and is now producing good branches or droppers of lead. I have no doubt of seeing greater results here as we advance towards Bowyer's shaft, which is not far distant. The 11, east of Bowyer's shaft, on the caunter lode, is improving, worth from 9*l.* to 10*l.* per fathom. The rise in the 11 east, on caunter lode, is worth 5*l.* per fathom. The stope in the bottom of the 11 east is improved, now worth 16*l.* per fathom. The stope in the back of the 15 east is worth 4*l.* per fathom. The adit shaft, on the main lode, is holed to the rise, and are now squaring the shaft down to the adit level. No change in any other bargain.

DE BROKE.—J. Phillips, Sept. 13: In Wilson's shaft, at the 35, we are preparing to fix penthouse, &c., so as to commence sinking to another level. The 35, driving east, and the same driving west, is of about the same value and appearance as last reported; not much of the lode since then has been taken down. The winze below the 25 will produce 2 tons of lead ore per fathom. The stope east and west of rise is worth 20*l.* per fathom; the stope at the junction 14*l.* per cubic fathom, but the ore somewhat bunchy and uncertain.

DERWENT.—John Morpeth, Sept. 12.—Fortnightly Report: Jeffries' Shaft: Middle Vein: In the 95 cross-cut opposite shaft we have struck a strong vein at the Tuft Sill, immediately under the Great Limestone. Whether the middle vein is split and this is a northern branch, or whether the lode has taken a hitch at the bottom of the Great Limestone before settling down into the Tuft Sill we cannot at present determine, but would recommend a cross-cut being started in the 95 west in the Great Limestone at once to prove if there is not a better part of the vein off to the north than that upon which we are opening: two or three fathoms will prove it. The vein is 4 ft. wide. The first 12 in. cut into contains 6 cwts. of lead ore per fathom: the other portion is poor. The 95 east of sump opposite shaft will be cleared to the end in a few more days, when the level will at once be started eastward. The two stopes over this level, whose respective values is 12 and 16 cwts. ore per fathom, are each 4 ft. wide of vein. The 95 west continues without change. Over this level the three stopes are worth 15, 15, and 16 cwts. of ore respectively; average width of vein about 6 ft. The 70 cross-cut has cut a string 6 in. wide, composed of slender white threads and shale, which is unquestionably a part of the Sun vein that we are cross-cutting for. In the 50 cross-cut, east of Reed's shaft, there is no change, and the same remark applies to the 40 cross cut east of Taylor's.—Westgarth's Shaft: The stope under the 74, west of Westgarth's, is worth 12 cwts. ore per fathom; lode 3 ft. wide. The stope over the same level, also east of shaft, is 3 ft. wide, and yields 16 cwts. ore per fathom. The pumping, drawing, and dressing at Jeffries' Mines are progressing with greater regularity than was the case a fortnight ago.

DEVON GREAT CONSOLS.—Jas. Richards, Sept. 15: Wheal Anna Maria—Engine-Shaft: In the 80 west, and west of Jeffry's cross cut, on the new south lode, the lode is still 2 ft. wide, composed of quartz, capel, mundic, and a little ore. In the new shaft sinking from the surface, 90 fathoms to the west of Jeffry's cross cut, on the new south lode, the lode is 3 ft. wide, consisting of capel, quartz, gossan, mundic, and a little black oxide of copper.—Wheal Josiah—Richard's Engine Shaft: This shaft is in regular course of sinking below the 280, and tolerably fair progress is being made. The 60 west, east of Castle's cross-cut, is communicated with the old workings. In the same level, west of Castle's cross cut, on the south part of the lode, the lode is 2 ft. wide, and worth 1 ton of ore, or 4*l.* per fathom; this drivage is suspended, and driving of Castle's cross-cut has been resumed, as in all probability more lode will be found standing in that direction.—Wheal Emma—Thomas's Engine-Shaft: The new shaft is in regular course of sinking below the 160. The north portion of the lode in the shaft is 3 ft. wide, composed of capel, quartz, arsenical mundic, and ore, worth for length of shaft (10 ft.) fully 6 tons, or 24*l.* per fathom.—New Shaft—New South Lode: In the 140 east the lode is a fine course of ore, worth fully 15 tons, or 60*l.* per fathom. In the 115 east the lode is 4 ft wide, composed of mundic, capel, quartz, and ore, worth 6 tons, or 24*l.* per fathom. In the new winze (Cocking's) sinking below the 145 east, 2 ft. of the lode being carried is worth for length of sink (9 feet) 6 tons, or 25*l.* per fathom. In the 130 east, and east of Tregay's cross-cut, the lode is a good course of ore, and worth 8 tons, or 32*l.* per fathom. In the 115 east the lode is still worth 4 tons of ore, or 12*l.* per fathom. Maunder's winze, below the 115 east, has been resumed, in which the lode is a good course of ore, worth 10 tons, or 40*l.* per fathom.

DUBBY SYKE.—Wm. Tallantire, Sept. 8: Dubby Syke Old Level: We are making the best progress we can with opening out this level, but having formerly been driven in plate or shale, which is soft, it is entirely crushed together, and takes nearly as much work to re-open it as driving a new one.—Shooting-Box Level: The men have this week been cutting a drift across the vein to find the south cheek or wall to prove the vein lying on that side of the rise we found the limestone, and shall now drive on the vein east. It is my opinion, judging from the ore we have met with, that we may expect a good mine as we drive in this limestone.

EAST BASSET.—Richard Pryor, Edward Adams, Sept. 13: There has been no particular change throughout this mine during the past week. Friday next being pay and setting-day, a full report shall follow.

EAST VAN.—W. Williams, Sept. 13: Topmost shaft is down 49 fms. In the 25 we are still having proofs that we are just skimming the top of a run of ore ground. We are still having good stones of ore on the sole of the level, and the forebreast is daily becoming more wet.

EAST WHEAL LOVELL.—R. Quentrall, Sept. 13: The lode in the new shaft sinking below the 117, has rather improved since my last report. It is getting larger, and producing a little more tin. We have fixed a lift at the 117, which will enable us to make better progress in sinking.

ELGAR.—J. G. Green, Sept. 14: We have driven 9 ft. west and 2 ft. 8 in. east of the bottom cross cut on the lode, but have no change of importance to remark. We intended exposing the southern leader in the end of western drift, after which we shall drive east with a full pare of men to come under the ore ground driven through in the adit. If on stripping down the south part of the lode, which looks exceedingly kindly, the ore ground is proved to be lengthening westward, it would, of course, be advisable to continue both drifts simultaneously. As yet we have no indication of having met with its western extremity, nor can this be accurately ascertained until more of the lode is exposed. At surface we are progressing well, and have now the drawing machine ready for work, having attached wire rope, and suspended the cage in the shaft, pulley and stands fixed and completed, and shall now go on fixing the guides in the shaft. Pumping connections working admirably.

GAWTON COPPER.—G. Rowe, G. Rowe, jun., Sept. 9: The part of the lode carried in the winze sinking below the 117, is 3 ft. wide, producing arsenical mundic, with spots of ore. The lode in the stopes in the back of the 117 is worth 9*l.* per fathom. The lode in the 105 east is showing a very kindly appearance, and producing fine stones of ore. The lode in the rise going up in the back of this level is worth 12*l.* per fathom. The lode in the stope in the bottom of the 95 is worth 10*l.* per fathom. The lode in the winze sinking in the bottom of the 95 east is worth 8*l.* per fathom. The lode in the 82 east is 5 ft. wide, being principally composed of spar and capel, spotted with mundic and good quality ore. The tribute department is without change.

GOGINAN AND LEVEL NEWYDD.—Sept. 12: During the past month the 10 west of cross-cut from Bryn Pica shaft, has been extended 5 fms. 4 ft., on a lode varying from 4 to 5 ft. wide, which yields good stones of ore at times. The lode in the present end is 5 ft. wide, containing a little ore, but not sufficient to value. Good progress is being made here. The winze below the 110 fm. level, 35 fms. west of Bryn Pica shaft, has been sunk to the requisite depth for the 120, and that level driven east of same 3 fms., on a lode that will average 4 ft. wide, producing some good ore, and in the present end is producing good saving work. Here the air is rather bad, and the progress not so good as we could wish; however, a communication will now very shortly be made with the same level driving west of Bryn Pica shaft. The 120, east of western shaft, has been extended 2 fms. 5 ft.; lode here latterly has not been looking so well, but is improving again, and the present end is worth 13 cwts. of ore per fathom. The same level west of winze, below the 110 fm. level, 80 fms. west of Bryn Pica shaft, has been driven 3 fms. 2 ft. The lode in the present end is interspersed throughout with lead ore, worth 12 cwts. per fathom; ground harder than of late. The 120, west of western shaft, has been extended 2½ fms. in a large lode, and the part carried produced from 12 to 15 cwts. of ore per fathom; in the present end it is worth ½ ton of ore per fathom. The trip and cistern-plats have been cut at the 120, penthouse, &c., put in, and the sinking of the western shaft below the 129 has been resumed with full force. The lode in the bottom of the same is large, and the portion carried will produce from 12 to 15 cwts. of ore per fathom. The tribute pitches are without any material change, producing on an average 11 cwts. of ore per fathom. Surface operations are being pushed on regularly, and we have now a good supply of water, the reservoirs being more than two-thirds full. Samples of 32 tons of good quality silver lead ore have this day been sent out for sale on the 25th inst.

GLENROY.—R. Rowe, Sept. 13: We commenced to cross-cut the 50 on Monday, close to the engine-shaft; and, judging by the dip or underlie of the lode proved in the side of the 40, we may have 2 or 3 fms. of a cross cut to drive before we intersect the ore-bearing lode immediately above. In the 60 there has been a run, caused by the water being in the mine, and it will take us most of this week to clear the level of stuff, when cross-cuts will be started both east and west, as in sinking the engine shaft from the 50 to the 60 a part of the lode went off to the hanging or east side of the shaft, carrying ore with it, and has not been seen since. There was a large accumulation of stuff in the 40 and 25 fms. levels, which was important to clear and get rid of. I have, therefore, had the men mostly employed about this work for the last week or ten days, now that we have plenty of water for pumping and drawing at one and the same time; but by the end of this week all be clear, and in the 40 the western side will be proved further, and a winze also commenced to sink on the rich blende lode already laid open. In the 25 cross cut, driving west, we are in about 6½ fms., and to all appearance we are drawing near to a lode; the rock is impregnated with eyes of lead and blende, and from being quite dry is now letting out a steady feed of water. I look anxiously to this cross-cut. We have commenced to dress ore this week, and the crushing-mill will be ready in a few days.

GOREU (Silver-Lead).—William Nicholls, Sept. 13: The lode in the engine-shaft presents a very favourable appearance, and still yields saving work for silver-lead. The shaft is sunk 7 fms. 1 ft. below the 25, the men having been hindered by reason of the bucket-rod parting in the lift; it is again put in working order.

GREAT DYLIFFE.—Edward Rogers, Sept. 13: Dyliffe Lode: The underlie engine-shaft is down 11 fms. 5 ft. below the 120, sinking by nine men, at 19*l.* per fathom. The lode is worth about 20*l.* or 22*l.* for length of shaft—10 ft. The 120 is driving east of this shaft, by four men, at 5*l.* per fathom: the lode is worth 8*l.* per fathom. At the 105 we are driving east of boundary-shaft, by six men, at 8*l.* 15*s.* per fathom; the lode is producing some good stones of lead ore. The 60 end is driving, by four men, at 6*l.* per fathom; we intend cross-cutting through the lode when we get 2 or 3 fms. further east. The 45 is driving west of the winze, by six men, at 3*l.* per fathom, and 5*l.* per ton for the lead; the lode is worth 20*l.* per fathom. At the 40, there are four men driving east of boundary-shaft, at 1*l.* per fathom, and 7*l.* 10*s.* per ton for lead; the lode is worth 16*l.* per fathom.—Llechewedd-du Lode: In the 35 end the lode is worth 10*l.* per fathom for driving, by four men, at 2*l.* 10*s.* per fathom, and 6*l.* 10*s.* per ton for the lead. Tribute setting as under:—Two men at 3*l.* per ton, seven men at 4*l.* 15*s.*, 28 men at 5*l.*, 12 men at 5*l.* 10*s.*, four men at 6*l.*, 16 men at 6*l.* 10*s.*, two men at 7*l.*, and 19 men at 7*l.* 10*s.* per ton. We are sampling to-day 80 tons of lead ore for sale on the 25th inst.

GREAT RETALLACK.—John Harris, Sept. 19: The lode in the 20 west is of much the same character as I reported last Saturday; but I am pleased to tell you the floor of white killas in the bottom of the end is getting closer to the footwall of the lode, and I am looking forward for an improvement shortly. There is no other change in the mine.

GREAT WEST VAN.—John Williams, Sept. 9: I was underground at the Great West Van Mine yesterday, and am pleased to say that the mine is looking very promising. The 46, west of cross-cut, at Eliza shaft, is worth from 35 to 45 cwts. of lead ore per fathom; the end is looking very kindly for further improvement. The eastern end is worth from 20 to 25 cwts. of lead ore per fathom. The stope in the back of this level is worth 2 tons of lead ore per fathom. The 46, west of old engine-shaft, has improved very much in the last few days, and is now worth from 2½ to 3 tons of lead ore per fathom; there is one branch of lead from 4 to 6 in. wide in the end, and about 18 in. of good mixture besides; the orey part of the lode is about 2 ft. wide; this end has improved since they passed the junction of the two lodes; the winze is still in good lead. The stope in back of the 34, west of old engine shaft, is worth from 10 to 15 cwts. of lead per fathom. The stope in back of the 23 is worth from 12 to 15 cwts. of lead per fathom. All that is wanted is to extend your levels, sink winzes for ventilation, and open ground for stoping; by so doing you will soon get the mine into a paying state. Sink Eliza's shaft, and then you are safe for a lasting and highly profitable mine.

— Wm. Bramwell, Sept. 11: I am pleased to inform you that everything is going on here as usual, and the mine yielding ore as for some time past. At the 46, west of old engine shaft, the lode is steadily improving in value—produces today fully 25 cwt. of lead ore per fathom. This I consider a very strong indication that the ore continues down from the winze above. The above winze has been sunk all the way down in capital ore ground. I have set the 34 west to two men to cross-cut north, where I expect to get some ore soon. Hauling and dressing are being pushed on as fast as possible. We have now a good supply of surface water for all purposes.

GREEN HURTH.—Wm. Vipond, Sept. 8: In the cross-cut west from rise, at the end of No. 1 cross-vein, we are still cutting strong branches or strings, but they contain no ore to value. The ground appears to be a continued series of branches for fathoms in width. The beds are beginning to rise a little this week.—Branches West: No. 1 is poor; rock very much brangled with ore.—No. 2: We are taking down some of the roof in this, and have good ore at present. We have been putting the shaft down this week below the bottom of level, so as to get the pump into water where we put it in.—No. 2 Cross Vein: The end south on this is broken and easy just now; not too much ore in it, but if it is the branches coming from No. 1 that is making the change in the ground we may look for improvement. The stope behind in this continues about as usual, and we have also begun to stope the east branch from this to No. 1, which is looking well for ore. We continue on with reservoir, putting up the pulleys to carry wire-rope, and have got the round old buddle taken out, and have begun fixing it in its new place. We have sent a wagon of ore to Mr. Dinning this week, containing 7 tons 4 cwts.

— William Vipond: Sept. 9: We have now plenty of water and are getting 3 to 4 bings (a bing of ore is 8 cwt. and its value at our present price of ore is 5*l.* 5*s.*) of ore per day from the machinery. I think it improves a little with working, and as soon as the round buddle is ready for work it will help our returns a great deal. We have got nothing yet from either rough or fine sluices, and they are accumulating rapidly.

GROGWINION.—J. Kitto, Sept. 11: I am pleased to be able to inform you that there is a great improvement in the end driving west from cross cut on No. 4 lode, at the 24 fm. level. This is a most important feature, and adds very materially to the value of the mine, as there can be no doubt now that this lode is standing whole westward by the side of the workings on No. 3. We are driving a cross cut from No. 3 to intersect No. 4 at a point about 10 fms. west of the present end, and shall reach it, all well, in about a fortnight from now; this is more particularly for ventilation, but it will likewise prove the lode that much further in this direction. There is also an important improvement in the 34, driving east on No. 3 lode. This end is in new ground, being in advance of the other levels from the shallow adit downwards. The intermediate level is also looking better than it has for some time past. The lode in this end (No. 3) has been disordered for some time and poor, but it has now got more settled, and again resumed its former productiveness. These are the only changes of importance since my last report. No. 1 lode, in the long drift, is much the same as it was a month ago, still yielding saving leadstuff, and looking very kindly, but not yet rich. I think there can be no doubt, however, that it is standing whole eastward. The stopes throughout the mine are yielding much as usual, and we have sold for the last month, to George Burr, Esq., 140 tons of lead ore, at 14*l.* 0*s.* 6*d.* per ton, and shall sell a similar quantity this month.

GUNNISLAKE (Clitters).—William Skewis, J. C. Seccombe, Sept. 13: The engine-shaft is down about 10½ fms. below the 188. The winze sinking below the 188 is down 13 fms. The lode is looking more promising for an early improvement. The stopes throughout the mine are producing about the usual quantity of copper ore. There is no other change to notice since last report.

HARWOOD.—Sept. 8: Hendship Level: We have commenced this week to rise in the No. 1 cross vein (that is the vein first cut in the level). This vein throws the east side up about 18 in., and so far as we have risen in it is very encouraging, indeed. We have not yet reached the limestone. We have risen to the top of the limestone in the new east and west vein, and intend now to drive eastward in it—1. To prove its own value at this part of the limestone.—2. To cut by this driving the north and south vein, formerly so rich at Scar Head. This can be done much sooner this way than by means of the level, as the ground in the east and west vein is so easy. The level will have to come on by-and-bye. The south end in the No. 2 cross-vein continues to yield ore as usual in value, or rather better. The north end is also beginning to yield a little ore again, and I think it is likely to open out good.—Surface: Ore dressing is proceeding satisfactorily.

HINGSTON DOWN CONSOLS.—James Richards, Sept. 14: Bailey's Shaft: The lode in the 160 west is 5 ft. wide, and worth 2 tons of ore, or 8*l.*, per fathom. In the 160 west, east of Rowe's winze, the lode is also 5 ft. wide, and worth 2 tons of ore, or 8*l.*, per fathom. The stope of ground now being taken down below the 150 west, east of Nicholls' winze, is worth 3 tons of ore, or 12*l.*, per fathom. The lode in the stope in the back of the 150 west is worth 4 tons of ore, or 12*l.*, per fathom. The lode in the 140 west is more promising, and is 2½ ft. wide, producing rich stones of ore. The lode in the stope in the back of the 140 west is worth 4 tons of ore, or 14*l.*, per fathom.

KINGSTON CONSOLS.—G. F. Richards, Sept. 14: Fair progress has been made in sinking the engine shaft during the past week, and the south part of the lode, which is carried in the shaft, continues most promising, producing occasionally good saving work of lead and blende ores. In the 30 west fair progress has also been made, and the lode, I am pleased to say, has improved, producing about 5 cwts. of silver-lead ore per fathom; the lode is very strong in its general composition, and a further improvement may be expected. The rise (Griffin's) in the back of the 18, and the winze in the bottom of the adit, we hope to hole in a few days, when fresh stoping operations will be set on. The lode in the winze (No. 3) and stope in bottom of the 18 west still continue good, and will produce from 5 to 6 cwts. of silver-lead and about 6 cwts. of blende ores per fathom. The stope in the bottom of the adit and the stopes in the back of the 18 west continue to yield from 5 to 7 cwts. of lead and from 8 to 10 cwts of blende ores per fathom each. The machinery is in good working order, and we shall push on with all possible speed for another sampling of lead and blende ores.

LADYWELL.—A. Waters, Sept. 14: The 32 on new Britain lode is up to the junction of main lode, and the men are now driving south on the latter in promising ground. Tributers continue to get good ore stuff in the 16 north and south of shaft. No. 2 pit on the mountain south is going down in a lode 2 feet wide, composed of carbonate and sulphide of lead, gossan, &c. No. 3 pit is being cut down and timbered for a whim-shaft, and we hope to resume the sinking next week. The lode here is 5 ft. wide, well charged with white and blue lead, the indications being everything we could desire at the depth, which is 3 fms.

LLANIDLOES.—J. Kitto, Sept. 9: Monthly Report: We are making very good progress in driving the 72 east, and in another month I expect to reach our best run of ore ground, and judging from the character of the lode and the ore we have already passed through I expect to find it more productive than it has been in the level above. In the 48 west the lode yields a little ore occasionally, and is very kindly, but not sufficiently rich to value. We are cutting lodge at the 72, and preparing to sink for another level, and shall resume the sinking of the shaft as quickly as possible, as I am still of opinion that our best chances are deeper down. Our stopes above the 60 are looking better, and are yielding more ore than for some time past. We have sampled 20 tons of lead ore to-day, for sale on the 20th instant.

LLANRHAIADR.—E. Pascoe, Sept. 14: The only change in the deep adit is that the spar is getting stronger, and is impregnated with sulphur, with spots of lead occasionally; it is a beautiful spar. I only wonder why there is not more lead in it. The winze below No. 4 is now down between 9 and 10 fms.; we have one more pump to put in, and that will be as deep as we can go with our hand pump. The stope west of winze below No. 4 is worth for lead fully 27*l.* per fathom. The stopes over No. 3 are worth 6*l.* 10*s.* per fathom. I expect to sell another parcel of 10 tons in the course of a fortnight or three weeks.

MARKE VALLEY.—W. George, J. Stenlake, Sept. 14: Fair progress is being made in sinking Salisbury's engine shaft. The ground in the 148 cross cut, towards Marke's lode, continues hard granite. In the 60, on Rosedown, the lode is 1½ ft. wide, composed of capel, quartz, and good stones of ore. In the 50 it is 1½ ft. wide, yielding saving work. The lode in the 30 is from 5 to 6 ft. wide, composed of spar, gossan, and yielding 1 ton of good quality ore per fathom, with a promising appearance of further improvement. The 20 end is also looking very promising, and is now yielding ½ ton of ore per fathom. The 10 end continues to yield 2 tons of ore per fathom. The stopes and pitches are without any material change to notice.

MELINDUR.—John Kitto, Sept. 9: The engine-shaft is nearly down to the 50, and in a few days from now we shall commence to drive east and west on the course of the lode. I have nothing whatever new to communicate to you. We have commenced to cross cut for the purpose of making a trial on the south lode, and I think we have good reason to hope that it will prove successful. Everything both underground and at surface is regularly progressing, and we shall sample a parcel of ore (from 15 to 20 tons) one day next week.

MELLANEAR.—Sept. 13: At the old engine shaft since the last report we have replaced the pumps in the broken lift, repaired and strengthened the angle-bob at the 65, and have put in several lots of stays about the main rods, and made the repairs necessary to the rest of the pitwork, since which the forking of the water has gone on very satisfactorily, and it is now down 7 fms. under the 67, and with good speed we expect to be in fork to the 78 by the early part of next week. The engine is going 12½ strokes per minute, and forking about 6 ft. in 24 hours. There is no change to notice since last week in the 30, west of skip shaft. We have set the 50, to drive west of skip shaft, by four men, at 5*l.* per fathom, on a lode about 6 ft. wide, and worth 1 ton of copper ore per fathom—a very promising looking lode. We have also four men clearing and repairing the 67, west of shaft, and we expect to begin the driving of this level next week on a lode 4 ft. wide, and worth 5 tons of ore per fathom. The ground in Gundry's shaft is again a little more favourable for sinking, and we calculate to sink this month about 3 or 9 ft.

MONYDD GORDDU.—Richard Rowse, Sept. 13: The engine shaft is below the 12 fm. level 7 fms. 3 ft., and favourable progress is being made by nine men. The ground is improving in character as we deepen, and I look with a higher degree of certainty for a valuable lode at the 24; a short cross cut from the 24 will reach the lode about 6 fms. under the junction, and the fact of our having a good lode gone down in bottom of the level above makes it the more certain of its being found rich at the level below. The south lode in the rise to communicate with the drift is worth 12*l.* per fathom; set to four men, at 7*l.* per fathom. The lead stuff is now cleared from the drift and the stope over the same, the latter will be resumed by four men; the lode is at the present time 4 feet wide, worth 15*l.* per fathom. The four men in the drift will be put to sinking against the rise above named, and when the communication is made, which I hope will be in a few days, this drift will be resumed in a lode 4 ft. wide, worth 12*l.* per fathom; and the lode in the sink will be of the same value (12*l.* per fathom). This communication will greatly facilitate the transit of stuff and ease cost. The main lode in the stope from the winze west of the shaft is worth 14*l.* per fathom, and very promising. The main lode in the stope over the adit, west of the shaft, is worth 15*l.* per fathom. The 12 east will be clear of stuff in a few days, and should be resumed; the lode is very strong and promising, spotted with lead and copper, and very likely to improve. The 12 west, on the south lode, should be resumed; the lode in the last 6 ft. driven has much improved in strength and character, and promises to become productive soon. Samples were sent out as advised for next sale of lead, and you will get the bids on Friday. We have a full supply of water for all purposes, and everything is going forward with regularity and dispatch.

MOUNTS BAY.—John Curtis, Sept. 12: We cut good stone of yellow copper ore in the deep adit end on the Trewavas copper lode. I did not think we should have cut into the ore ground for some distance, judging from the strata or rock passed through in the shallow level, but from the present appearances of the lode, and the kindly nature of the copper ore now in the end, it looks as if we are near or have reached the western deposit of minerals. I have filled up the plan and section, and returned to the office.

NEW CHIVERTON.—J. Trewartha, Sept. 14: The engine-shaft is down 7 fms. 4 ft. below the 50, and good progress is still being made in sinking. The lode in the 50 north is worth 7*l.* per fathom. The 50 south is worth 10*l.* per fathom. In the 35 north the lode is large, and producing good lead work. The 35 south is improving, and we hope ere long to have a good lode here. The winze sinking below the 35 is down about 4 fms.; water very quick, about 100 barrels in 8 hours; the lode here has not yet been taken down nor cut into for fear of emitting more water. The winze sinking below the adit is down about 7 fms., lode very large, and chiefly mundic. No change to notice in the tribute pitches. We have sampled 19 tons of lead ores, for sale on the 16th inst.

NEW CONSOLS.—R. Pryor and Son, J. Jenkin, H. Vial, Sept. 13: We begin to hand you our setting report. To drive the 50, east of Phillips's shaft, by six men, at 9*l.* per fathom; this end is being driven on the north part, as it is now under where we had a good lode above; we shall cross-cut at this point in order to get into the main part of it. To drive the 40, east of Thomas's shaft, by four men, at 6*l.* 10*s.* per fathom; lode 3½ ft. wide, and worth 12*l.* per fathom. To drive the 30, east of Thomas's shaft, by two men, at 5*l.* 10*s.* per fathom; the lode at present is divided into two parts, but we think it will shortly unite again, when we shall expect an improvement. To sink and stope the bottom of the 50, east of Phillips's, by four men, at 7*s.* per ton; the lode is 4 ft. wide, and worth 22*l.* per fathom. To stope the back of the 50, west of Phillips's, by four men, at 6*s.* 6*d.* per ton; the lode is 4 ft. wide, and worth 30*l.* per fathom. To stope the back of the 40, west of Phillips's shaft, by four men, at 5*s.* 6*d.* per ton; the lode is 5 ft. wide, and worth 28*l.* per fathom. To stope the bottom of the 30, east of ladder-road winze, and west of Phillips's shaft, by four men, at 5*s.* 6*d.* per ton; the lode is 4 ft. wide, and worth 27*l.* per fathom. To stope the 40, west of Thomas's shaft, by four men, at 5*s.* per ton; the lode is 5 ft. wide, and worth 24*l.* per fathom. To stope the back of the 20, east of Thomas's shaft, by four men, at 5*s.* 6*d.* per ton; the lode is 3 ft. wide, and worth 22*l.* per fathom. To stope the back of the 20, west of winze, and east of Thomas's shaft, by four men, at 5*s.* per ton; the lode is 3½ ft. wide, and worth 18*l.* per fathom. To stope the back of the 21, east of footway, and east of Thomas's shaft, by four men, at 4*s.* 6*d.* per ton; the lode is 4 ft. wide, and worth 16*l.* per fathom. To stope the bottom of the 10, west of Thomas's shaft, by three men, at 6*s.* per ton; the lode is 3 ft. wide, and worth 15*l.* per fathom. To stope the back of the 20, east of Broadgate engine shaft, by six men, at 5*s.* per ton: the lode is 4 ft. wide, and worth 25*l.* per fathom. To stop the bottom of the 3½, west of Plantation shaft, by four men, at 5*s.* per ton of stuff; the lode is 3 ft. wide, and worth 30*l.* per fathom. To stope the back of the 30, east of Plantation shaft, by six men, at 7*s.* per ton of stuff; the lode is 6 ft. wide, and worth 37*l.* per fathom. At surface everything throughout is going on in the most satisfactory manner, and the whole of our machinery is working well.

NEW HENDRA.—Richard King, Sept. 14: The lode in the deep adit end still produces some good work for copper. The lode about the same size as it was at the day of the meeting. The ground is a little harder, but I think it will change again in a day or two. The lode still lets out water freely. We are increasing our copper pike daily.

NEW NORTH POOL.—W. C. Vivian, Sept. 14: The 25 cross-cut south has been driven 9 fms. from the point where the cross course was intersected, and this, according to the map of the mine and the line of the lode as therein shown at Bullarat, should be within a foot or two of the lode, but it cannot be determined with absolute certainty where the lode may be to within 2 or 3 fms., as a moderate variation in its direction would throw it to that extent either one way or the other. The appearances in the end are, however, favourable to the idea of the lode being near at hand, as there is an abundance of blende scattered throughout the country to the east of the cross-course. I think also that the character of the rock is favourable for the productiveness of the lode in copper.

NEW ROSEWARNE.—E. Hosking, W. Bennetts, Sept. 14: Since we have commenced the winze below the 67 we have put the men to stope the end, where the lode is worth for copper ore 10*l.* per fathom.

NEW TYLLWYD.—J. Paul, Sept. 11: The lode in the 30 is 4 ft. wide—spar, clayslate, carbonate of lime, and a little little lead ore, but not sufficient to value. I may here remark that the level is not quite so hard as it has been, and has more water issuing from it than usual; this is a good indication. The lode in the 30, east of cross-cut, is much the same as last week—small and unproductive. Machinery all right, and going well.

NORTH LAXEY.—R. Rowe, Sept. 9: I was at North Laxey yesterday, accompanied by Mr. Warington Smyth. He completely agrees with me that the lode in the 136 and in the bottom of the engine shaft is assuming in size and character more inviting and promising than anything before seen in the mine, and ought to be pursued further into depth without delay. There is no special change in the mine since my report to you of the 17th ult., only that the lode in the 136 south is increased to 4 ft. wide, still containing a mixture of lead, blende, and copper, and letting out an unusual feed of water, which is an excellent sign. The 84 end has still a large lode, yielding good stones of lead. We have about 20 tons of lead dressed and undressed.

NORTH ROMAN GRAVELS.—F. Francis, Sept. 12: Tramway Level: The driving for the past month has been just 6 in. short of 2 fms., on a little softer lode, occasionally bearing small lumps of lead ore with black jack. The indications are good, and I think we shall shortly see a change in this lode. One of the men of this corps died suddenly the week before last, and I have re-set the driving for the current month to only two men, at 6*l.* per fathom.—New Lode: The sinking for the past month has been 13 ft., and in consequence of a great influx of water latterly I was obliged to give the men 11*l.* per fathom for the last 7 ft. sinking the first fathom to be paid for at the price first set—7*l.* I have re-set the sinking for the current month at 11*l.* per fathom to six men. The entire influx of water comes from the north end of the lode, there being now three strong feeds and a small one, which give about 200 barrels a stem. This, though a very great hindrance to the sinking, is a very good indication of the open character of the lode north of the shaft, and I have no doubt we shall find a good body of ore when we drive on the lode in this direction dipping from the pipe of ore discovered above. The lode in the bottom of the shaft is about 4½ ft. wide, with a great deal of spar and black jack mixed with it.

NORTH TRESKERBY.—Richard Pryor, Sept. 13: The lode in the stopes in bottom of the 30, east of Highburrow shaft, is worth 18*l.* per fathom. The lode in the stopes in bottom of this level west of shaft is worth 18*l.* per fathom. The lode in the winze sinking below the shallow adit level, east of Doctor's shaft, is worth for copper 8*l.* per fathom.

OLD TREBURGETT.—W. Hancock, W. T. Bryant, Sept. 13: At the 102 the shaftmen are going on with the contract (set them last month) as fast as the nature of the ground will admit. To drive the 90, south of the engine-shaft, by six men, two months, at 7*l.* per fathom; lode 2 ft. wide, of a kindly appearance, producing occasional stones of silver lead. To stope in the 80, south of shaft, preparatory to driving on the end again by eight men, per contract, at 40*l.*; worth about 9 per fathom. No. 1 stope in back of the level by four men, two months, at 65*s.* per fm.; worth 8*l.* per fathom. No. 2 stope by four men, contract not out, worth 8*l.* per fathom. No. 3 stope by six men, one month, at 60*s.* per fathom; worth 10*l.* per fathom. No. 4 stope by six men, contract not out, worth about 20*l.* per fathom. We shall commence sinking a winze below this level next week some 15 or 20 fms. in advance of the 90 end; the men who are going in it are at present engaged in pairing the 40 south. Macey's shaft to cut down to the 20, divide, case, bel, plank, and put down footway from the deep adit to the 20 by six men, per contract, at 16*l.* 10*s.* The tribute pitch in the bottom of the 70 north is set to eight men, at 8*l.* per fathom. We have 40 men on tribute—eight at 8*l.* per ton, two at 15*l.* per ton, 11 at 17*l.* per ton, 15 at 18*l.* per ton, and two at 20*l.* per ton. We find the beam of our balance bob at surface failing. We shall stop the engine in a few days time, or when convenient, to strengthen it.

PANT Y MWYN.—W. T. Harris, August 29: On Saturday, August 26, I visited this mine, and was very pleased with what I saw, both on surface and underground. Griffiths' shaft is being sunk below the deep adit level, and is now 7 fms. 1 ft. deep, and good progress is made. The lode is from 3 to 5 ft. wide, producing good stones of ore, and most encouraging in prospects. A level is being driven out west 9 ft. from the bottom of the shaft, and is extended 6 fms., the lode yielding richly of lead ore for the whole distance; the present end is producing good lead, with every prospect of a further improvement. This drivage is opening out a productive section of ground, and as the mine is developed other runs of lead will be discovered. The engine works splendidly, and is fully capable of keeping the water down for some time to come. Great credit is due to Capt. Hughes for the energy displayed and the success obtained in so short a time.

— James Yelland, Sept. 14: Since the above report was written a considerable improvement has taken place in the shaft sinking below the deep adit, the lode in which is producing large lumps of solid lead ore; this will open up a most profitable section of ore bearing ground, and will very shortly prove, from present appearances, that Pant y mwyn will prove a rich and lasting mine.

PARYS MOUNTAIN.—T. Mitchell, Sept. 13: In the 90 cross cut south we have at present a joint going in the same direction as the end, and we have in connection with this joint some lumps of copper ore and sulphur, which we consider a promising feature; water still boiling up from the bottom of the end. We have no change to notice in the 90, east of engine-shaft; the ground continues hard. The 45 east has further improved, and the rise in back of this level is

looking well, and opening up good ground for stoping. The stopes at the intermediate level, over the 90, are not looking so well. The stopes at the 80 have also fallen off in value lately; but we hope next month to be able to raise more ore from the 45. Some of our tributers have recently left here for other parts in Wales, where they have been offered better wages; consequently, the returns from this department are less than they were. We have commenced this week to clean up the precipitation pits.

PATELEY BRIDGE (Lead and Smelting).—C. Williams, Sept. 14: The Lumb vein going east in the south cross-cut, in the 14, is opening out very productive, and the part carried (6 ft.) yields over 2 tons of rich lead ore per fathom. The vein in the winze now sinking in the west end of the drivage is over 18 ft. wide, filled with gossan and lead ore, yielding of the latter 45 cwts. of rich lead ore per fathom, and improving. Fielding's vein, going north-west from the east cross-cut, in the 20, is opening out into profitable working, being 4 ft. in width, and producing 10 cwts. of lead ore per fathom. The vein in the rise in the back, over this level, is 4 ft wide, and producing 15 cwts. of lead ore per fathom. The south cross-cut in the 20 west, to cut the Lumb vein, has been extended 17 fathoms, leaving 8 fathoms more to cut the same; the ground in the end is fair for progress, and this morning we came across a large block of solid ore, which will weigh over 2 cwts.; this speaks well of the vein when intersected.—Engine Shaft: The shaftmen are busily engaged in fixing skip road, &c., which work will be completed with all dispatch. I hope to have another parcel of pig-lead ready for sale about a month hence. Our engine and pitwork are in good repair, and working well.—Surface Work: The dressing of lead ore is proceeding favourably.

PENHALLS.—S. Bennetts, P. Vian, Sept. 9: The 70 east on the downright lode is without change. The lode in the winze below the 60 east is worth 8l. per fm. The 60 east end is worth 10l. per fathom, and the middle level west on the same section of the lode 6l. per fathom. The 50 north end continues very wet, but without any further lode. The 48 west is worth 12l. per fathom, and the 45 west in another section of the lode 4l. per fathom. The 30 east end on the north lode has much improved during the past week, and is now worth 12l. per fathom, and is a most promising lode.

PENNERLEY.—W. T. Harris, J. Delbridge, Sept. 13: In the 130 fm. level east the ground appears a little easier for progress, and more spar shows itself in the forebreast. The lode in the 120 west is now 3 ft. wide, composed of carbonate of lime, interspersed with a little lead ore and blende—a very kindly lode for the production of ore. The stope in back of this level is worth 1 ton lead ore per fathom. In this level east the lode is twitched, ground favourable for progress, and promising for a change. In the winze and stope below this level the lode is 2 ft. wide, worth 3 tons of lead ore per fathom. The rise in the back of this level is worth 1 ton per fathom. The lode in the 80 fm. level west, on the Warm Water lode, is 2½ ft. wide, and producing 1½ ton of lead ore per fathom. The lode in the winze sinking below the 70 is worth 1½ ton per fathom. The stope is worth 1 ton per fathom. In the 60 fathom level we have commenced to drive west on the east and west lode for the purpose of proving the north lode, and also to meet the run of ore gone down in the 40 fm. level; the ground is favourable for progress.—Potter's Pit: The lode in the 90 west is 1 ft. wide, containing good stones of lead; fair progress is being made. In No. 2 winze, sinking below the 75, the lode is 3 ft. wide, containing saving work for lead ore. The winze and stope west are worth 2½ tons of lead ore per fathom. The lode in the 55 west contains no ore to value. We look for a change here shortly, calculating from what we met with at the 40. The 25 east, on Wilson's lode, is worth 1 ton of lead ore per fathom.—Tribute Department: No change. The men making fair wages at their respective prices.

PLYNLIMMON.—John Garland, Sept. 13: In the 24, east of new winze, the lode continues to produce 1½ ton per fathom, with every indication of an early improvement. The stope in the back of this level, east of new winze, being in broken-up ground, carries a fluctuating lode; present yield ¼ ton of lead ore per fathom. The stope in the back of the same, east of cross-course, still averages a produce of 2 tons of lead ore per fathom. Drawing and dressing are being kept on with regularity, and keep pace with the present producing capabilities of the mine, which will increase as the 24 end is lengthened eastward. The machinery throughout is in fair working order, with a good supply of surface water. The tenderings for the last parcel of lead ore sampled are due at your office on Friday next.

PRINCE OF WALES.—J. Andrews, J. Pryor, Sept. 13: The following was our setting on Saturday:—To drive the 77 cross-cut north, by six men, at 7l. per fm.; here the water is coming strong from the end, and we think we are near the lode. To drive the 55 west, by six men, at 10l. per fathom, lode worth 8l. per fathom. To drive the 45 west, by six men, at 9l. fathom; the lode is 2 ft. wide, yielding a little copper ore, but not enough to value.

BELISTIAN CONSOLS.—J. Curtis, Sept. 14: We have an improvement in the 24 east of Duke's shaft; the lode so far as seen is 4 ft. wide, with a branch or leader on the south side 6 in. wide, with good stones of yellow copper ore. In the north part of the lode there are good stones of tin. On the whole, we are looking much better.

RHEIDOL.—John Ridge, Sept. 11: The lode in back of the adit level will yield ¼ ton of blende per fathom. In accordance with your instructions, I have set a rise in back of mid-way level, on Foxpath lode, to two men, at 6l. 15s. per fathom; the lode is 4 ft. wide, composed of slate, spar, gossan, and yielding about 8 cwts. of lead ore per fathom. We are pushing on with the dressing as fast as we can with the number of hands employed, and hope to have the parcel of blende ready by the end of next week.

ROMAN GRAVELS.—A. Waters, Sept. 14: The flat rod shaftmen are still cutting ground in the 95 cross-cut, fixing timber for pulley-stands, and so forth, in connection with the gear we have to put up for pumping out of the 108. The 95, north of engine-shaft, on west lode, is worth 1½ ton per fathom. The lode is switched up again, but we think it is only temporary. The stopes in back of the said level are yielding ore as for some time past. The new south engine shaft is being sunk below the 95 by nine men, on a lode 6 ft. wide, worth 4 tons per fathom. The 95, south of this shaft, is now in a small lode, corresponding with the twitch seen in the 80, 65, and 50, north of the above shaft. The said end is about 2½ fms. from the shaft, and I expect to have to drive 2 or 3 fms. to reach the wide lode and productive ground seen in the level above. I would remark here, for the satisfaction of a shareholder who writes for information, that the runs of ore south of the counter dips south 4½ ft. in 6 ft., hence the ground valued at 6 tons per fm. in the 80 is still fathoms in front of the 95 south end. The 80, south of Wilks' winze, is in a lode 6 ft. wide, worth 3 tons per fathom. The stopes in this level, north and south of said winze, are worth 4 tons per fathom each. The 85, south of Sokes' winze, on the hanging wall part, is worth 2 tons per fathom. The stopes in roof of the 65 are yielding their usual quantities of ore. The winze below the 65, on the east lode, is worth 2 tons per fathom. The middle level, below the 65, south of Glover's winze, is worth 3 tons per fathom. We shall have this ground open for stopes shortly. We are to day sending out samples of 220 tons, for sale next Thursday.

ROOKHOPE (LEAD).—J. Blenkiron, Sept. 11: There is no material change to report at the mine. The men are making fair progress in driving the 42. We have only ten men at present stoping in back of the 15, in ground worth 25 cwts. of ore per fathom, and costing 35s. We find the drawing-shaft in much worse condition than we anticipated; in fact, it is not safe; we are repairing and putting it right at night or when we are not drawing work, so as to stop dressing as little as possible. We are drawing a considerable quantity of stuff from the 42, which is poor, but will pay for dressing, &c., but produces ore for market very slowly. We are very short of water yet for dressing.

SAINT HARMON.—J. Kitto, Sept. 9: The lode in the 67, both east and west of the engine shaft, is looking more promising than it did at the date of my last report, and has yielded a little ore during the past month. In the western level I expect a farther improvement shortly. The 35 west has been yielding saving work for lead during the greater part of the past month. We are only carrying a small part of the lode in the driving, but as soon as we get a few fathoms further ahead we shall cross cut the same to full width in order to prove its size and value. At present the prospects in this level are very encouraging. There has been a slight change for the better in the 35 east, and the stope in roof of same, together with the 48 cross cut south, and the winze sinking below the 23, continues much the same as last reported.

ST. PATRICK.—W. Francis, Sept. 13: The driving east, on the vein under the 120 yards level, continues with the same favourable features, and lead ore is met with continually, the rock being hard; the progress is not, however, so speedy, although the fact of such may be considered a favourable indication. The 120 cross-cut is being continued northward in the cross course, which is again opening out (being now 7 in. wide, of good "sticking"). The 90 cross-cut north is in without material alteration since last report. The 60 cross-cut north is in firmer ground, and most promising for a new discovery.

SOUTH CONDURROW.—Wm. Rich, Wm. Williams, H. Abraham, Sept. 12: We have holed the winze in the bottom of the 82; this has well ventilated the 93, and has opened ground for stoping. The 93 west is worth 10l. per fathom. The 93 west is worth 10l. per fathom. We shall cross-cut the lode in the 82 west very shortly. In the meantime the level west is being driven by the side of the lode. The cross cut north below the 60 is being urged on by six men, with the view to cut the great lode to the north of West Basset lode. The 60 west is worth 8l. per fathom. The rise in the back of this level is worth 40l. per fathom. The 60 east is worth 8l. per fathom.

SOUTH CWMYSTWITH.—John Kitto, Sept. 11: The ends which are being driven on the different lodes are not looking so well or producing so much ore as they were a month ago; but I expect some of them to improve again very shortly, and particularly the upper level on No. 2 lode. We are sinking a winze below the deep adit on the north lode in a good bunch of ore, and our prospects here of having a rich mine in depth are exceedingly encouraging. The various cross cuts are progressing satisfactorily, and we shall soon intersect one or two of the lodes at deeper points, where we have every reason to expect good results. There is nothing else new at this time to refer to.

SOUTH ROMAN GRAVELS.—John W. Powning, Sept. 14: Shelfield Engine-shaft: The hanging wall of lode continues its perpendicular course, and the sinking is now altogether in the country. We have met with a flat face or joint during the week, under which there is a perceptible change taking place, the rock being strongly charged throughout with mundic. I am hoping this change will be more favourable for sinking, but shall be able to see more of it by next report.

SOUTH TOLCARNE.—Joseph Vivian and Son, Sept. 13: There is nothing of importance to report on different from the information given in the report for the general meeting of shareholders. The 50 cross cut is now extended 8½ fms. north towards Fraser's lode, and the rock continues very hard, but we have observed in the last foot or two cut through small seams and faces of quartz, with a little copper ore. The lode cannot be many feet in advance of the present end, and but for the unusual hardness of the granite we should have reached it ere this.

TANKERVILLE.—Arthur Waters, Sept. 14: Watson's shaft, below the 167, is down 10 fms. 1 ft. 6 in. The winze below the said level is down 5 fms. 2 ft. The lode in winze and stopes throughout the mine are without change to note since last week's report.

TAN YR-ALLT (Cardiganshire).—John Davies, Sept. 14: The water is now all out of the 22, and we are driving south, the lode looking very promising, and a great quantity of water bursting forth, which I think must come from a junction of an east and west lode. The stope north is looking splendid, the lode being about 4 ft. wide, with about 3 ft. of solid lead, and the rest a good mixture of lead throughout, the lode improving as we go on south. We put a few holes on the side of the 12 south about 4 fms. ahead of the end in the 22, and the men broke some splendid stones of lead, some being quite 2 cwts., and nearly solid lead; and no doubt we shall soon cut into this course of ore in the 22. We shall resume crushing and dressing—which we had stopped whilst making the necessary repairs to the pumping rods and tackle—on Monday.

TEESDALE.—T. Watson, Sept. 7: North End Working, No. 1: I have placed two more men here, so that there are now eight men at this point working ore, and the vein keeps its value. In No. 2 the four men engaged have been filling up the end stoped out, and putting in timber; they will now commence to stope cut the vein again.—South End Stope: This place is looking well, and is well worth three bings (24 cwts.) of lead ore per fathom.—Hopkin's Level: The men are now walling the air-shaft and making it into a travelling way.—Surface Work: Everything in connection with the erection of the crushing-mill and machinery is being pushed on as fast as possible. The men employed working for lead ore keep the ore dressers at work without bringing any more of the bouse (ore, &c.) out that was got last winter.

TREBEIGH.—J. Gifford, Sept. 14: The drawing engine will be complete by Saturday next, when the engineers will leave the mine, but as it was thought advisable at the general meeting, as also on Saturday last, not to set it to work before the steam pipes were covered and the roofs of the engine-houses were completed (which we hope will be by the end of next week), we shall wait your instructions for starting it.

TRELEIGH WOOD.—Edwin Hosking, William Goldsworthy, Sept. 14: There is no change in the 54 since our last. The lode in the 44, east of the cross-course, is worth 12l. per fathom for tin; the north part is yielding good stones of copper ore. The tribute pitches are looking much the same as for some time past.

VAUGHAN.—Sept. 12: The engine-shaft under the 32 fm. level has been sunk during the past month 1 fm. 5 ft., in ground favourable for exploring, and good progress is being made. No lode at this point has been taken down since last reported on. The deep level east has been extended during the past month 3 fms. 4 ft., in a lode chiefly composed of a light clay-slate, carbonate of lime, and quartz, with occasional stones of lead ore; this point is fast approaching under the engine-shaft, and working in the same is distinctly heard, and we look forward to having a communication in a few weeks. Our pumping-wheel and pitwork is in good working order, with an ample supply of water for all purposes.

VRON.—S. Harper, Sept. 9: We are continuing to sink the engine-shaft below the 100 yard level. The lode in the No. 2 winze sinking below the 80 yard level is not looking quite so well to-day, having met with a large tumbler or rock embedded in the lode, which has disturbed it; but this I think is only temperary, as we have still nice looking stuff with good deposits of lead in the lode. The rock may continue for a yard or so, when I expect to see the lode as good as ever again, as we are in the right course for the run of ore.

WEST GODOLPHIN.—John Pope, Sept. 9: Caunter: In the pressure shaft, sinking below the 60, the lode is 2 ft. wide; distance worked, 4 fms. 4 ft., producing tin. In the 60, driving north, the lode is 2 ft. wide; distance worked, 5 fms. 2 ft. 6 in., producing tin. In the 60, stoping the back and bottom south, the lode is 2 ft. 8 in. wide, worth 8l. per fathom, producing tin.—Wilson's: In the 60, driving west, the lode is 7 ft. wide; distance worked, 45 fms. 5 ft. In the 60, driving east, the lode is 2 ft. wide; distance worked, 47 fms. 1 ft. 10 in. In the 50, driving west, the lode is 7 ft. wide; distance worked, 48 fms. 3 ft. 1 in. In the 50, stoping the bottom west, the lode is 6 ft. wide. In the 50, stoping the bottom west, the lode is 4 ft. wide. In the 50, stoping the back west, the lode is 6 ft. wide. In the 50, stoping the back west, the lode is 3 ft. wide. In the 50, driving east, the lode is 2 ft. wide; distance worked, 51 fms. 5 ft. 2 in. In the 50, stoping the bottom east, the lode is 10 ft. wide. In the 40, driving west, the lode is 2 ft. wide; distance worked, 30 fms. 2 ft. 9 in. In the 40, stoping the bottom east, the lode is 3 ft. wide. In the 40, stoping the back east, the lode is 2 ft. 6 in. wide. In the 30, stoping the bottom east, the lode is 2 ft. 6 in. wide. In the 20, sinking at Boulton's shaft, the lode is 3 ft. wide; distance worked, 2 ft. In the middle adit, driving west, the distance worked has been 37 fms. I am pleased to inform you that the mine never loked better than at present, and judging from present appearances we may reasonably expect an increase in our tin sales. I could not possibly sell the tin to-day, having had notice to weigh the copper ore, and having also a special engagement, but shall sell on Monday morning. I think it will be about 13½ tons. The copper weighed 10 tons, 6 cwt., at 20l. per ton = 205l. 14s. 3d.

WEST GOGINAN.—John Kitto, Sept. 9: Monthly Report: The lode in the engine-shaft sinking below the 24 is not looking so well at present as it has for some time past. I think the ore has dipped away to the east of the shaft, and if this is the case we shall soon intersect it again when we commence to drive out at the 36. We have had some nice ore lately in the 24 west, and appear to have got the same run of productive ground as we passed through in the adit and 12 fm. level, but rather earlier than we expected. I have strong hopes that this will prove more lasting and substantial than anything we have yet discovered, but another month's driving will enable us to ascertain this. The winze sinking below the 12, in the same run of ground, has yielded some good stones of lead ore during the last few days. We are getting on as fast as we can with the dressing of the ore, but the stuff is not turning out anything like so well as I anticipated, and the marketable ore is accumulating slowly; this, however, is usually the case with the first parcel.

WEST MARIA AND FORTESCUE CONSOLS.—Wm Skewis, Sept. 13: West Maria Lode: The lode in the 104 east is much improved in appearance since last report, producing good stones of copper ore and mundic. In driving to cut the north lode, in the 93 west, the ground is favourable for progress, and water coming freely from the end highly mineralised.—North Lode: The lode in the 71 west is 3 ft. wide, worth for copper and mundic 8l. per fathom.

WEST MILWR.—William Francis, Sept 13: The cross cut south from West Meadow shaft is now in solid limestone, and I think we are now close upon the main branch of the Milwr vein. The progress is necessarily slow, but I fully calculate upon making a valuable discovery soon.

WEST TANKERVILLE.—A. Waters, Sept. 14: The sinking of boundary shaft below the 75 proceeds with fair speed; the lode is standing to the east of the shaft, and will come down when we begin to stope and open out at the next, or 86 fm. level. The 75, south of shaft, is going forward on two divisions of lode, which will be together in 2 fms. further driving, when an improvement may be looked for; the present value is 1 to 1½ ton per fathom. The 63, south of shaft, is worth 1 ton per fathom, and looks like improving shortly. A new winze below this level will be commenced to-morrow, by six men, in a lode worth 2 tons of lead ore per fathom. There are three stopes in back of the said level, worth together 6 tons of lead ore. The two stopes in the back of the 50 south are worth for lead and blende 30l. per fathom each.

WEST WHEAL TOLGUS.—Sept. 13: The ground in Taylor's shaft is still in clean killas, but a little harder. Next week we shall begin to put in skip-road from the 125 to the 135, take out the penthouse under the 125, and put in a strong one below the 135. We calculate this work will take about a fortnight to complete. The lode in the 135 west is 5 ft. wide, 3 ft. of it very good and the other part orey. The ground continues hard and spare for driving, but to day it is looking better. The end will yield from 5 to 6 tons of good ore per fathom. The lode in No. 3 winze in the 125, west of shaft, is 7 ft. wide, yielding 8 tons of ore per fathom. The ground appears to be getting better, which we are pleased to see, as doubtless it will yield more ore as it gets easier. The lode in the 125 fm. level end west is 3 ft. wide, and easier for driving than it has been, but is still poor. The lode in the 115 end west is 2 ft. wide, without much ore. The lode in the 115 end, west of shaft, east from the point of the horse, is 3 ft. wide, yielding 2 tons of ore per fathom. The lode in the 95 end west is 18 in. wide, yielding slabs of mundic, but very little ore. At Richards's shaft the lode is large, with a little ore, saving work; a very kindly lode, and we have strong hope of it soon improving. The lode in the 85 end yields about 1 ton of ore per fathom; a large, strong lode. The lode in the 75 end west is all the width of the end, and very wet, but not much ore. There is no alteration in any other place. We are busy preparing for next Tuesday's sampling.

WEST WYE VALLEY.—J. Kitto, Sept. 9: We are making fair progress in the sinking of Brooke's shaft, and this being a most important point of operation, I am having it pushed on as rapidly as possible, as I am anxious to get it down to the level of the 26 from the main shaft, where we shall intersect and drive both east and west on the course of the lode, and I believe with great success. I am glad to say we have a great improvement in the 26 east end, driving towards Brookes's shaft; the lode contains a nice branch of rich lead, about 3 in. wide, and at present there is every appearance of our having entered upon a fresh bunch of ore. This is in new ground, and is standing whole to surface. Our surface works are progressing satisfactorily. We have nearly finished the first part of the large reservoir, and after a few more days shall allow it to stand and settle until early in the spring of next year, as it will be quite impracticable to attempt to complete the same during the winter months. The masons have nearly finished the walling of the first two cottages.

WHEAL CREBOR.—J. Andrews, Sept, 11: The following was our setting on Saturday:—To drive the 120 end, east of Cook's shaft, by four men, at 6l. per fm.; the lode is small and poor. To drive the 108 east, by six men, at 10l. per fathom; the lode is 5 ft. wide, and worth 30l. per fathom. To drive the 72 east, by two men, at 11l. per fathom; the lode is large but unproductive. To drive the 48 east, by four men, at 110s. per fathom; the lode is 4 ft. wide, yielding good stones of ore, but not enough to value. No. 1 stope in the back of the 48, by four men, at 55s. per fathom; the lode is 4 ft. wide, and worth 10l. per fathom. No. 2 stope in the back of the same level, by six men, at 30s. per fathom; the lode is 8 ft. wide, and worth 15l. per fathom.

WHEAL KITTY (St. Agnes).—S. Davey, Richard Harris, Sept. 9: We have no change to report in any part of the mine since last week.

WHEAL GRENVILLE.—T. Hodge, Sept. 13: The following bargains were set on Saturday last: Western Shaft: The 160, to drive east, by six men, at 12l. per fathom. The 150, to drive east, by two men, at 8l. 10s. per fathom. To shoot down the lode to its full width, behind said end, by four men, at 8s. per ton. To stope the bottom of the 150 east, by six men, at 6s. 3d. per ton. To stope the back of the 150 west, by four men, at 6s. 3d. per ton. To stope the back of the 150 east, by four men, at 6s. 6d. per ton. To stope the bottom of the 130 east, by six men, at 6s. 6d. per ton. To stope the back of the 130 east, by six men, at 7s. per ton. To stope the back of the 130 east, by six men, at 6s. per ton. The 130, to drive east, by four men, at 7l. per fathom.—North Shaft: The rise in the back of the 140 is set to six men, at 14l. per fathom. To stope the bottom of the 130 east, by six men, at 7s. per ton. The 130, to drive east, by two men, at 10l. per fathom. The 130, to drive east on the old lode, by two men, at 6l. 10s. per fathom. The 130, to drive west on the old lode, by two men, at 4l. per fathom.—Tribute: We have set 13 pitches to 27 men, at an average tribute of 12s. 4d. in 1l. The bargains, on the whole, are without any change worthy of notice since my report for the general meeting. Our pay and setting passed off satisfactorily. The engine is working very well, and the mine is drained to bottom.

— T. Hodge, Sept. 14: The lode in the stope in the bottom of the 130 at the north shaft is improved, worth for length of stope 20l. per fathom. No other change worthy of note.

WHEAL UNY.—William Rich, Matthew Rogers, William Bennets, Sept. 9: The lode in the 140 west carries a little tin. The rise in the back of this level, towards the incline shaft, is in easy ground. The lode in the bottom of Hind's shaft, below the 160, is worth 20l. per fathom for the length of the shaft. There is no alteration to notice in the 150 cross cut north. The 140 end, west of incline, is worth 12l. per fathom. The 140 end, east of King's, is worth 10l. per fathom. The 120 east is worth 12l. per fathom. The 110 east is worth 10l. per fathom, and the lode likely to improve.

WYE VALLEY.—John Kitto, Sept. 9: We have had a good branch of ore in the 22 east during the past week, but have not yet sufficiently far advanced to reach the heart of the main bunch. I will give full particulars of this discovery in my report for the general meeting. The lode in the adit end east is of immense size. We have cross-cut it nearly 30 ft., but have not yet reached the south side. The last 15 ft. have yielded saving stuff for dressing, though not very rich, but I have not the least doubt that we are in close proximity to a large body of ore. Every other point of operation continues as satisfactory as ever, and our present prospects are most encouraging. We sold on the 30th ult. to Neville, Druze, and Co., 50 tons of lead ore, at 13l. 11s. per ton.

ST. AUBYN UNITED.—The cross-cut in the 25 fathom level south has just intersected the No. 1 lode, which is rich. Other points have improved since the meeting. This mine bids fair to enter the Dividend List early next year.

NEW ST. AGNES.—This mine is gradually improving, and bids fair to take its stand with the best the district has produced. Three important points have considerably improved, and altogether the prospects of the property itself are very encouraging.

THE DIAMOND ROCK BORER.

A circular issued by the instructions of Mr. Basset, from the Tehidy office, Camborne, informs the General Boring Machine Committee and others interested in mining that an arrangement has been provisionally entered into between Capt. Teague on behalf of the adventurers in Carn Brea Mine, and Major Beaumont, on behalf of the Diamond Rock Boring Company, for driving with the percussion drill of the company the 226 fm. level in Carn Brea Mines for six months, on the following scale:—

For a speed of 3	yards per month	.....	£18 per fathom.
For a speed of 4½	,,	,, ...	23 ,,
For a speed of 6	,,	,, ...	27 ,,
For a speed of 8	,,	,, ...	30 ,,

Major Beaumont, as far as the committee is concerned, is to be limited to a speed of 15 fms. per month, Capt. Teague guaranteeing to pay for any excess of speed beyond.

Assuming, therefore, that a speed of 15 fathoms per month be reached, the total amount required would be 2700*l.*, towards which Capt. Teague guarantees the present hand labour price of 18*l.* per fathom, or 1620*l.*, leaving the committee to find 1080*l.*, to which must be added the cost of transit and cost of machinery, not exceeding 200*l.* Total, 1280*l.* The total amount already guaranteed 700*l.*

The circular concludes with an appeal to the mining community for pecuniary assistance to carry out this experiment, which is intended as a competitive trial with the Barrow drill, and other boring machines on trial in Cornwall and elsewhere. The assistance should be forwarded to Mr. J. L. Bowden, on behalf of Mr. Basset, the chairman of the Executive Boring Machine Committee.

The competition between the Diamond Rock Borer and the Barrow Borer will be watched with great interest by all mine adventurers. The Barrow borer at Dolcoath has already been proved to drive 2½ times as fast as hand labour, and the patentees have taken a contract to drive the 302 and 314 fm. levels in that mine at the same price as hand labour, with 10 per cent. premium for driving twice as fast. By the circular it will be seen that Major Beaumont's terms for driving twice as fast as by hand labour are 50 per cent. in excess of hand labour. Both Dolcoath and Carn Brea Mines are in Mr. Basset's land.

Mr. Basset has since written the following letter:—

SIR,—In your paper of to-day you have the following remarks:—"The Barrow borer at Dolcoath has already been proved to drive two and a half times as fast as hand labour, and the patentees have taken a contract to drive the 302 and 314 fm. levels in that mine at the same price as hand labour, with 10 per cent. premium for driving twice as fast. By the circular it will be seen that Major Beaumont's terms for driving twice as fast as by hand labour are 50 per cent. in excess of hand labour." Though your remarks as far as they go are correct, I must point out that the terms of the Barrow drill are 10 per cent. on present hand labour, at 25*l.* per fathom, which, when known, considerably modifies the statement as it at first appears. But you must allow me to state that this is not a trial for testing the comparative cheapness per fathom of the two machines to a pound or two, but a six month's comparative competitive trial of working results.

The committee, with myself, are looking further forward, and to larger results than this six months' trial, and at a time of great depression and a great crisis in the mining interests of this county, look to stimulating the energies of practical working men towards what we hope may put a new aspect on Cornish mining, and lead to great results.—*Tehidy, Camborne, Sept.* 11. G. L. BASSET.

THE ROYAL CORNWALL POLYTECHNIC AND BORING MACHINES.

SIR,—I have seen the reports in your paper of the meeting of the above society. It is with great satisfaction I read Mr. Basset's remarks on the boring machines, and his persistent determination to give them a trial. It may not be out of place to make a few remarks, with a view to dissipate some of the haze which surrounds this question, as probably it does all new enterprises when first taken up. Conceiving the possibility of failure in the coming effort of one party, I regret much that not more than one patentee is to enter the arena and show what can be done. I repudiate any intention to detract, discourage, or in any way lessen the enthusiasm of those who are looking forward to the coming test as a final establishment of boring by machinery throughout all our mines.

The Beaumont borer, allow me to say, is a combination of Ferroux's and Dubois and François's machines. The piston of Ferroux, as is well known, does not control the admission valve, and, consequently, it is certain to strike the cover or diaphragm in the back stroke, whilst it will always strike the gland at the front of the cylinder, if permitted to do so—*i.e.*, if not the rock. In the François borer the same drawback is experienced; the bolts tying the cover and gland together (five-eighths of an inch in diameter) are frequently snapped and have to be replaced by new ones. Inventors may extol the merits of the dead blow in rock boring machinery, but practically a dead blow is unattainable, from the movement of the piston and the want of connection between the piston and valve. The movement of the piston is so quick that it will always render a dead blow very doubtful. The weight of the Beaumont borer is much heavier, necessitating a heavier carriage, mounting, &c., than has hitherto been tried in Cornwall. The Barrow borer now being worked at Dolcoath is almost a copy of the Kainotomon, whether you compare the cradle, the cylinder, piston, or the general method of shifting the valve, exception being taken to the escapement that the tapit and annular cam is derived from the Burleigh; and when we consider that the Kainotomon had been devised by employees who had been associated with the Burleigh, and the latter drill having been employed in the Barrow district, its origin and paternity cannot be doubted.

At Minera, not only recently but now, boring machines are available in hard cross-cuts and levels, but lately they have been successful in sinking in vughy veins, and in cutting a plot 10 feet by 8 by 7=560. Seventy holes, each about 3 feet, were bored in the face and fired in volleys of 10 or 12 at a time, and removing the ground. Twenty holes of 3 feet each were bored in six hours by one Darlington borer, No. 2 size, 2¾ inches diameter, which requires less than one-half the air that Beaumont's drill takes, which is 4 inches in diameter. In this case the borer had all the disadvantages of being placed on a stretcher bar 7 feet 6 inches long.

In reading the account of the discussion at the Polytechnic one would conclude that the want of success was the want of a boring machine—a good and proper machine. Nothing is more delusive; borers there are in abundance; were the skill displayed in utilising them equal to their power and excellence, we should hear no more of this cry for a boring machine. Capt. Josiah Thomas says they are doing two-and-a-half times as much as hand labour (of the great advantage to the mine from this fact I dilate not here), but this is small progress, and I trust ere long Capt. Thomas will be able to say we are driving 12 fathoms a month.

At Mont Cenis, in 1857, they completed 5 ft. in a heading in 24 hours, which is hard granite. At Vielle Montagne, in the year 1864, they made 18 in. in 24 hours. At Marahaye, in 1867, the average rate was 5 ft. 4 in. in 24 hours. At Ronchamps the rate was 6 ft. in 24 hours. At Anzin, in 1872, 3½ ft.; whilst at St. Gothard they have made 12 ft. in 24 hours. At Musconetcong tunnel the heading was carried 24 ft. by 9 ft. high, 30 to 36 holes were planted 9 ft. apart, of 10 to 12 ft. deep in the forebreast, electrically fired and advanced from 9 to 10 ft. in 24 hours. A dozen other cases might be cited. At Portskewit a modified McKean's machine, in a heading 8 ft. by 8 ft., is being pushed on at from 14 yards to 19 yards a week. At Curnbrain, with two borers, from 12 to 14 yards per week (10 ft. by 8 ft.) At Minera, when not interrupted, about three times as fast as manual labour.

The following extract from Engineering of the 1st inst. is a truthful and correct statement of the ease of rock boring, according to my idea:—

Writing on drilling in the Musconetcong Tunnel—"The estimates are based on ordinary 10 ft. cuts; there were, however, many instances of 12 ft. and 13 ft., and even 14 ft., cuts taken by ambitious foremen, but even giant powder (dynamite) has its limit of strength, and working too deep cuts is not advisable, as they will often blow out partially, leaving the rock in an awkward shape. As to the division of time in heading work, to drill and square up a cut should take about four eight-hour shifts with such rock as was met with at Musconetcong, it being unusually hard and tough. It will take one shift to drill and blast the cut, and one shift to each of the three rounds, and with this force of twelve machinemen, one driller, and one helper to each machine, six labourers for loading broken rock, one nipper for carrying tools, and a boss. On an average this standard is not always reached, as it provides for no stoppage, no missed holes, and no accidents, and, unfortunately, tunnel headings are liable to occasional stoppages. With the advanced stage drilling machinery has attained engineers might now turn their attention more fully to devising increased facilities for removing broken material. . . Till some improvement has been made in this particular, further improvement to secure greater speed (than 10 ft. in 24 hours) in drilling will effect little practical benefit."

If, then, machine boring has arrived at that satisfactory stage—*i.e.*, until you can clear away the stuff faster—surely no sane man out of Hanwell need talk of this or that borer not being practicable. One watch may go better than another; one boring machine may be more effectual than another, more economical and more durable; but let us not, in the face of such evidence, doubt their practical working, but wipe away the cobwebs which have so long and effectually cramped our efforts that we are in danger of being considered the least practical of miners instead of the first. Let there be system in bringing the borers quickly into position, systematic working—boring as many holes as possibly necessary before the machine is removed, quickness in throwing back the stuff that the drills may again go to work, when we shall find that what others have long done can be done in any mine in Cornwall.

Apologising for the length of this communication, and thanking you for the insertion of previous letters, I hope our anxieties are about to terminate in the solution of a question tending so much to the health of our miners, and the saving of loss to adventurers, as well as the well-being of Cornwall. H. WADDINGTON.

Sept. 11.

P.S.—After all the writing and talking on this subject I am painfully aware that the question arises in the mind of the sceptic—"Believing what you write, why have you not done better at Wheal Agar?" The reasons are many and various, but none of which can be charged to the Darlington borers, better than which have not yet been invented, or less liable to wear and repair it is difficult if not impossible to find. In the hands of more influential people and determined effort probably no other would have found support in Cornwall.

THE EMMA MINE.—The Correspondent of the Times, writing from Philadelphia (Sept. 9), says that the Emma Mine was sold at Salt Lake City, on Friday, for $144,194. The sale took place to satisfy judgment creditors, and it was bought for Mr. Trevor Wm. Park.

HALIFAX.—Thursday, Sept. 14: The following quotations are from Mr. J. H. Thackrah's list:—Halifax and Huddersfield Union Bank, 29½; Halifax Joint-Stock Bank, 29½; Halifax Commercial Bank, 24½; London and Yorkshire Bank, 26s. 9d.; John Crossley's, 11¾; Whitworth and Co., 8; Bradford Brick and Tile, B, 6; Ripponden Commercial, 11; Yorkshire Boiler Insurance Company, 22s. 6d.; Norton Brothers, 8; Heckmondwike Manufacturing Company, 4; Goole Steam Shipping Company, 12.

*** With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—Original Correspondence: Sandwell, Hamstead, and Perry New Sinkings; the Aruba Island Gold Mining Company—No. III. (G. W. Baker); California Capital in Chili (J. P. Sewell); Richmond Consolidated Mining Company; Chontales Mining Company; Foreign Loans, English Railways, and British Mines (R. Tredinnick); the Thunderer; the St. Gothard Tunnel, and Rock-Drills (T. Roberts); the "Subsidised" Rock Borer; Withdrawal of the Cornish Rock Drill Premium; Boring Machines: the Nascent Copper Company (Thos. H. Miller; the Nascent Process; Nomenclature of Welsh Coal Seams; Lead Mining; Miners' Pay—Thirteen Months in the Year; the Cardiganshire Mines, and the Government Inspector (A. Francis); East Goginan; Wheal Grenville, and its Management (F. L. A. T. Rodda); Mining in Ireland—Oola Mines (J. Phillips); New Consols (R. Symons); "Good out of Evil" (R. Symons); British Mining Investments (A. Jones and Co.)—The Wild Duck, or Sportsman's Arms—Improved Rock Boring Machine—Manufacture of White Lead Direct from the Ore—Foreign Mining and Metallurgy; Foreign Mines; Half-yearly Foreign and Colonial Mining Share List (E. Ashmead), &c.

The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, SEPT. 15, 1876.

IRON.	£	s. d.	£	s. d.
Pig, GMB, f.o.b., Clyde..	2	16 0-	—	
,, Scotch, all No. 1 ...	2	16 0-	3	7 6
Bars, Welsh, f.o.b. Wales	5	15 0-	—	
,, ,, in London.	6	10 0-	8	15 0
,, Stafford., ,, .	8	0 0-10	0	0
,, in Tyne or Tees ...	6	0 0-	—	
,, Swedish, London ..	11	5 0-11	10	0
Rails, Welsh, at works..	5	2 6-	5	5 0
Railway chairs	—	-	—	
,, spikes	—	-	—	
Sheets, Staff., in London	9	15 0-10	0	0
Plates, Staff., in London	9	10 0-10	0	0
Hoops, Staff.	8	15 0-	9	0 0
Nail rods, Staff. in Lon.	7	10 0-	7	15 0
STEEL.				
English, spring	14	0 0-23	0	0
,, cast	25	0 0-45	0	0
Swedish, keg.....	15	10 0-	—	
,, fag. ham.	17	10 0-	—	
LEAD.				
English, pig, common .	21	5 0-	—	
,, ,, L.B.	21	10 0-	—	
,, ,, W.B.	22	10 0-	—	
,, sheet and bar..	22	5 0-22	10	0
,, pipe.....	22	15 0-23	0	0
,, red	23	0 0-	—	
,, white	28	0 0-	—	
,, patent shot ...	25	0 0-25	10	0
Spanish.....	20	10 0-	—	
QUICKSILVER.				
Flasks of 75 lbs., ware.	8	0 0-	—	
SPELTER.				
Silesian or Rhenish ...	22	15 0-	—	
English, Swansea	23	10 0-	—	
Sheet zinc	27	0 0-	29	0 0

* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; IX 6s. per box more than IC quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

TIN.	£	s. d.	£	s. d.
English, ingot, f.o.b...	75	10 0-	76	0 0
,, bars ,, ...	77	0 0-	—	
,, refined.....	78	0 0-	—	
Australian	70	10 0-	—	
Banca	71	0 0-	—	
Straits	71	0 0-	—	
COPPER.				
Tough cake and ingot.	76	0 0-	—	
Best selected	77	0 0-	—	
Sheets and sheathing .	82	0 0-	83	0 0
Flat Bottoms	86	0 0-	—	
Wallaroo	76	10 0-	—	
Burra, or P.C.C.	75	10 0-	—	
Other brands	74	0 0-	74	10 0
Chili bars, g.o.b.....	70	10 0-	—	
PHOSPHOR BRONZE.				
Bearing metal	£112	0 0		
Other alloys	£120	0 0-	140	0 0
BRASS.				
Wire	8½d.		8¾d.	
Tubes.....	9		-12	
Sheets	8¾		-9¾	
Yel. met. sheath. & sheets.	7¼		- 8	
Nails composition.....	8½		-10¼	
TIN-PLATES.*	per box.			
Charcoal, 1st quality ...	1	6 0-	1	7 0
,, 2nd quality ...	1	4 6-	1	5 6
Coke, 1st quality	1	1 0-	—	
,, 2nd quality	0	19 6-	1	0 0
Black .....per ton	17	0 0-	17	10 0
Canada, Staff. or Gla., at Liverpool	13	0 0-	13	10 0
Black Taggers, 450 of 14 × 10	30	0 0-	—	

REMARKS.—Our market has been adversely affected by the state of suspense in which everybody is kept respecting the final issue of the Eastern Question, and while there remain grounds for supposing that the general peace of Europe may be disturbed it is evident no permanent recovery can be looked for. Unfortunately, at the present time there are reasons for thinking that political affairs may yet take a more complicated turn, and it is particularly unsatisfactory coming just now, because our markets were beginning to display a somewhat animated appearance, and there was a good prospect of business improving. If the Turkish war were over, business, no doubt, would be in a very different condition, as the last and worst evil would then be destroyed, and there would be little to prevent a general resuscitation in trade of great magnitude and of powerful construction, but the continuance of the war naturally creates a very uneasy feeling about foreign affairs, and this is quite sufficient to arrest the progress of commerce. This state of uncertainty must evidently pass away before confidence will be re-established, and business resume its ordinary course. In the meantime our markets will probably remain languid and prices unsettled, nevertheless, any further slight depreciation in value will be very quickly regained when the upward movement sets in, and that is not likely to be delayed long after peace is proclaimed. The market has not only suffered by general business keeping so quiet, but they have been rather unduly depressed by speculation, the speculative operations of any importance which have taken place being for the fall, and as prices have been continually drooping such transactions have been invariably fairly successful, but they have helped in great measure to hasten the decline, and to cause regular buyers oftimes to be dissatisfied with their contracts. For speculators to continue these tactics any longer would be hazardous, and some see this clearly enough, and are already beginning to operate for the rise, and considering the low prices of copper and tin there is every probability of such purchases not only being perfectly safe but profitable. A speculation or investment at cheap rates seldom or never fails to turn out satisfactory, and the present occasion in that respect seems favourable for both copper and tin.

COPPER.—The market throughout the week has been firmer for Chili bars, and sellers have been enabled to effect sales of upwards of 1000 tons. In Liverpool the price has been quoted higher than in this market by at least 5s. per ton, but the transactions here although quoted as being done at lower rates, yet in numerous instances are not actually so, and it is easily explained when the terms are taken into account by the difference in commission. Liverpool quotations are subject to the usual terms, whereas the business in London is frequently quoted without anything being mentioned about the special conditions. This should not be allowed, as these discrepancies tend to create confusion and dissatisfaction. Everybody in giving in reports should be forced to adhere to one particular system. Either let the price be net or subject to the ordinary market terms, and not sometimes in one way and at other times in a different way, according to the direction that the market is wanted to take. This is simply playing into the hands of "bears" and "bulls," and the trade should endeavour to put a stop to it. It is very essential that a fixed rule be established in regard to quotations, and that anyone found departing from it should have his report rejected forever afterwards. The control of the markets to a very great extent is held by a few dealers and speculators, while the smelters, importers, and consumers scarcely exercise any power at all. It seems not only objectionable but perfectly absurd to have the government of prices left in the hands of a class whose interest is so utterly insignificant in comparison with that of others. No doubt the best protection the trade could have against misrepresentations and false reports would be that no business should be transacted but through legitimate sworn brokers, and that their quotations only be taken as the standard market price. Chili bars are 70*l.* 10s. cash, and 70*l.* 17s. 6d., three months; Wallaroo, 76*l.* 10s. cash; Burra, 75*l.* 10s.; English tough, 76*l.*

IRON.—Rails are easier, and are quoted at 5*l.* 5s.; in Wales, possibly, 5*l.* 2s. 6d. might be taken. The general appearance of the market is unchanged, and they continue to assume a very dull appearance. The orders from India are extremely limited, owing to the difficulty which merchants have to encounter in regard to the Exchange. In a dead market, such as the present, there is no possibility of working up prices, and sellers find it no easy matter to make contracts at current rates; indeed, it is more often necessary than not to make a concession, especially if the quantity required is rather large, but the largest orders obtainable for some time past would, at any ordinary period, be looked upon as only moderate, and unworthy of any special consideration. The trade, however, has dwindled away so much that ironmasters are ready to execute orders for much smaller quantities than formerly, and will take specifications now that they used to reject before, but circumstances alter, and they can no longer show that spirit of independence. It is either one of two things, they must accept them or they must go without. Some prefer to do the latter, and quietly wait for a more convenient season; but this does not suit the majority, and bad as prices may be; yet they keep going on in the hope of better times hereafter and it is to be hoped that they will not be disappointed, for their trials have been severe, and their losses in many instances very heavy. The publication of the accounts of limited liability companies may be taken as a criterion of the state of the iron trade, and the position of some of the works is very serious, and they experience great difficulty in keeping on their mills. The prevalence of low prices would do more to inspire confidence than anything else; buyers would then come forward freely and get into stock; but as long as a declining or doubtful market exists the transactions will be confined to immediate requirements, and of a very ordinary character. A reduction of 1*l.* per ton would about meet the case, and the efforts of the trade should be directed to this end.

The reports from the various iron districts in the country are most gloomy, orders are scarce everywhere, the complaint of want of work is universal, the men are gradually becoming impoverished, and yet their Unions prohibit them taking the necessary steps to obtain work; if work cannot be had without a reduction of wages surely it is much better to submit to a lower scale than to remain idle. That is a state of things not at all conducive to their welfare, and the sooner they are made sensible of it, and insist upon an alteration in the Union law, the better for themselves and everybody else in the trade. Scotch pigs have remained stationary at 52s. mixed numbers cash.

SHIPMENTS.

Week ending Sept. 11, 1875	Tons	12,932
Week ending Sept. 9, 1876		10,479
Decrease		1453
Total decrease for 1876		74,593

LEAD.—A further depreciation has taken place in the value of this metal, particularly as regards Spanish pig. Sellers have lowered their price considerably, but buyers cannot be tempted at present, and the market looks very quiet, with a downward tendency during the next few weeks.

SPELTER.—English continues to be quoted at 23*l.* 10s. net at Swansea. At public auction 100 tons of English zinc has been sold at 27*l.* Silesian spelter quoted 22*l.* 15s.

QUICKSILVER.—No change to report in the price. The demand keeps moderate.

TIN-PLATES.—The demand for America is fairly good, but for other parts there is not a great deal doing. Makers maintain their prices with firmness.

STEEL.—The market is dull, but there are symptoms of improvement in the home demand. The mills just now are chiefly employed upon Government work, such as armour plates.

TIN.—The market has been irregular, but more in appearance than in reality. Throughout the week there has been a gradual advance taking place in the price. Sales in the early part of the week were made at 70*l.* for Australian, and at 70*l.* 10s. for Straits, but a strong demand setting in caused prices to stiffen 10s. to 20s. per ton, and the rise would have been considerably greater had it not been for some Billiton being placed on the market at 70*l.* and Banca at 70*l.* 10s. The forward sales have been reported at all sorts of prices and conditions, but they have been mostly of such a speculative character that they are unworthy of consideration or regard. Notwithstanding the pressure which is being brought to bear upon the market at the present time, the unmistakeable proof of its strength is demonstrated daily more and more by the fact that instead of prices tending downwards they are conspicuously stronger, and positively enhanced. It is expected that stocks will show a diminution at the end of this month, as deliveries are understood to be going on in excess of the supplies, and the position of the market in that case would be still further improved.

THE IRON TRADE—(Griffiths's Weekly Report).—Friday Evening.—The Glasgow market for g.m.b. Scotch pig-iron has been steady during the week, and closes this afternoon with buyers at 56s., exactly the same as the closing price to-day week. We quote makers' No. 1 iron:—Gartsherrie, 65s.; Coltness, 67s.; Calder, 65s; Langloan, 65s.; Summerlee, 59s. 6d.; Monkland, 57s., f.o.b., Glasgow; Glengarnock, 62s. 6d.; Eglinton, 56s., f.o.b. Ardrossan; Shotts, 65s 6d., f.o.b. Leith; Kenniel, 57s. 6d., f.o.b. Bo'ness. In the price of iron we have really no change to notice this week. Two large parcels of Middlesborough pig-iron have been forced on the market for cash; in these exceptional transactions concessions were made for prompt payment in cash, but the Middlesborough makers are a shade firmer in price. At Glasgow, the market is steady, with prices virtually the same. In both these great centres stocks are increasing. Hematite pig-iron on the West Coast is held by the smelters for 2s. 6d. more money. The market, however, for the raw material in Northamptonshire, Derbyshire, and North Lincolnshire is about the same, with very few indications of improvement.

In Staffordshire and Shropshire late prices are maintained by the smelters with no prospect of any further reduction. The stocks in both these districts are low, the only firms that hold even moderate stocks are the Lilleshall Company and Stanier and Co., and both are diminishing; but, come what may, there can be no further reduction in the price of pig iron in either of these districts, and as we are now within a month of Quarter-day, we may mention that there will be no change in price at the Birmingham Quarter-day, either in pigs or finished iron. The advance of coal declared by the Cannock Chase coal proprietors has not been followed by the Black Country coal owners, nor is it likely, forge and furnace coal being very abundant in the Black Country at easy rates. Our market is by no means active, and the shipping orders, which must be cleared off this autumn, are nothing like so large as they were last year. We may be able to give more satisfactory accounts of the shipping iron trade at the close of this month. The demand on this market is principally for sheet-iron, and some large orders have been given out this week for steel hoops made by the Chillington Company.

The general course of trade is just now staggered by the difficulties cropping up in various districts. It is generally thought that the evil results of the great failure in the North are not yet fully developed, although it is generally understood that the great firm of Thomas Vaughan and Co. will, after the 21st, stop all these works. Mr. George H. Hickman, of the Groveland Furnaces, has been compelled to suspend payment. Liabilities, 40,000*l.* Efforts were made to overcome difficulties which proved insurmountable. The estate is now in the Gazette. Mr. Warmington, of Dudley, is the solicitor to the estate. The Wellington Iron Company in Shropshire, formerly called the Old Park, is involved in inextricable difficulties, accelerated, no doubt, by constant losses on their make of pig-iron. This company was built by Mr. Albert Grant out of the late unfortunate Old Park Company. The debenture holders have the first charge, and we should think the general creditors will get very little. Of course the furnaces will be stopped immediately, it being impossible to make iron except at considerable loss. The uncertainty with regard to the course to be pursued by T. Vaughan and Co., and the rumours still afloat with regard to one or two other houses in the North, derange the normal trade of the country in the raw material. It is pleasing, however, to be able to state that the trade in Staffordshire and Shropshire was never in so sound a condition, and no further difficulties are at all likely to occur here. Mr. Hickman fought manfully against his difficulties, which are of very old standing, and the failure of the Wellington Iron Company surprised no one; the iron they made was good, but showed a loss on every ton made for the last two years.

Messrs. FRY, JAMES, and CO.—COPPER: During the past fortnight the market for Chili bars has been very quiet, and prices have fallen about 30s. per ton; the charters for last half of August were 3300 tons. Australian copper has not participated in the fall in price to the same extent as Chili. The quarterly sale of Wallaroo is announced for September 26, where 1566 tons will be offered, against 1840 tons in June, and 2010 tons in March last. The next sale will be deferred until January 16.——TIN: The market to-day is from 20s. to 30s. lower than a fortnight since, although there has been a slight rally from the lowest point touched.——LEAD is lower in price, and the market very quiet.——QUICKSILVER unchanged.——TIN-PLATES are still in but small demand, and prices unchanged.

Messrs. SANFORD and BIRD—COPPER is steady in price, with a limited business. TIN has been more dealt in, the low price having attracted some attention. TIN-PLATES are in moderate enquiry, without change in price. LEAD is easier. ANTIMONY unaltered.

Messrs. PIXLEY and ABELL.——GOLD continues to flow into the Bank, and although there have been some exceptionable orders for coin for the Continent during the week the amount purchased by the Bank since our last is 924,00*l.* The stock of bullion in that establishment will go on increasing, as there is no general demand for export. Sovereigns to the value of 112,000*l.* have been withdrawn for transmission to Batavia, Brazils, the Cape, and Alexandria. The imports comprise—29,000*l.* from the Brazils, 65,000*l.* from New Zealand, 59,260*l.* from India, 38,500*l.* from West Indies, 900,000*l.* from Russia: total, 1,091,760*l.*——SILVER: The rate slightly declined after the date of our last to 51¼*d.* per ounce, at which price all the arrivals of the week have been sold. The market has been somewhat firmer to-day, in consequence of some enquiry for the East and the scarcity of silver offering, and we quote 51¾*d.* per ounce as the rate. The arrivals have been about 74,000*l.* from New York, and 47,000*l.* from the West Indies. The P. and O. steamer takes 11,200*l.* to Bombay.

The settlement of the fortnightly account has occupied the chief attention of the dealers in the MINING SHARE MARKET this week, and only a moderate amount of business has been transacted in a few leading lead mines. For the most part our quotations are quite nominal, and there are no great improvements to remark upon or to add to the buoyancy of the market.

The mines dealt in have included East Van, Roman Gravels, Tankerville, Rookhope, Parys Mountain, Van, Van Consols, Glyn, West Tankerville, Wheal Crebor, Plynlimmon, Pennerley, Devon Great Consols, North Laxey, and a few others.

The next sale of Banca tin will take place on the 26th, when 29,900 slabs are offered for sale.

Roman Gravels shares have been weaker, at 13¼ to 13¾; the lode in the 95, north of engine-shaft, is twitched up, and worth only 1½ ton of lead ore per fathom, but the agent considers this falling off only temporary. The 95 south is also in a twitch corresponding to that seen in the 80. The sampling for the month is 220 tons of lead ore. Tankerville, 10¼ to 10¾; West Tankerville, 1⅜ to 1⅝.

Rookhope (Lead), ⅞ to 1; Henry, 5 to 6; the agent has commenced dressing lead here, and one or two points in the mine are on the eve of being proved. East Van were rather extensively dealt in, and firm early in the week, but leave off 9⅞ to 10¼; Van, 36 to 38; Glyn, 3 to 3½; the ends driving east and west in bottom level are yielding saving work for lead. West Chiverton, 17½ to 18¼ (ex. div.); Great Laxey, 18 to 19; North Laxey, ¾ to 1; Ladywell, 1⅜ to 1⅝; Pennerley, 1¼ to 1½; Plynlimmon, ¼ to ⅜; Pateley Bridge, 3¾ to 4¼; the lumb vein, going east on the south cross-cut in the 10, is opening out very productively, and the part carried is worth over 2 tons of rich lead ore per fathom. The winze sinking to the west of this drivage is 18 in. wide, filled with gossan and lead, and worth, for the latter, 45 cwts. per fathom. Pennant, 5 to 5¼; West Craven Moor, 10 to 11; East Chiverton, 2 to 2½; Penstruthal, ½ to ¾; Carn Brea, 31 to 33; Dolcoath, 31 to 33; Marke Valley, 1⅛ to 1⅜.

South Frances, ¼ to ½; at the meeting, held in Cornwall, the accounts showed a loss on four months' working of 159*l.* A call of 6s. per share was made. The ores sold realised—Tin, 18*l.*; copper, 16*l.* Pascoe's shaft is now down and cased to the 205, and driving will be shortly commenced towards the great flat lode of West Basset, South Condurrow, and Grenville, and which it is supposed is not far off. Relinquishments of 540 shares had been sent in, but the remaining shareholders determined to go on with the mine, believing the cross-cut in the 205 may result in a good discovery. At New Pembroke meeting, in Cornwall, a call of 2s. 6d. per share was made. The costs for four months were 208*l.* 4s. 3*l.* Tin sold, 61*l.* 14s. 9*l.*; copper, 59*l.*; loss, 83*l.* 9s. 5d.; and a debit balance against the mine of 165*l.* 1s. 5d. In consequence of the trustees of the Treffry Estate having relinquished a large number of shares, a special meeting will be held on Monday, Sept. 25, to take into consideration the future working of the mine. The lode in the bottom of the winze, 9 ft. below the 100, is worth 25*l.* per fathom. A stope east of the winze is worth 25*l.* to 30*l.* per fathom.

Prince of Wales, ⅛ to ¼; the 77 cross-cut north shows appearances of a lode. The 55 west is worth 8*l.* per fathom. The 45 west produces stones of ore. Wheal Crebor, 2¾ to 3½; the 108 end east is worth 30*l.* per fathom. Stope in back of 48, worth 10*l.* per fathom. No. 2 stope is worth 15*l.* per fathom. Relistian Consols, ½ to ⅝; the lode in the 24 level, driving to get under the rich tin ground seen above, is now 4 ft. wide, and looking well for copper and tin. Parys Mountain, ⅝ to ¾, and in request; in the 90 cross-cut there is this week a joint going in the same direction, and, it is hoped, feeding the end, for there are some lumps of copper ore and sulphur in it, which the agents consider a promising feature; the water is also still boiling up from the bottom of the end. Devon Great Consols, 2½ to 2¾; in the 160 east the lode is a fine course of ore, worth fully 15 tons, or 60*l.* per fathom. In the 145 east the lode is 4 ft. wide, worth 6 tons, or 20*l.* per fathom. In the new winze—Cocking's—sinking below the 145 east, 2 ft. of the lode carried is worth 6 tons, or 25*l.* per fathom. In the 130 east the lode yields 8 tons, or 32*l.* per fathom. The 115 east, 4 tons. Maunders' winze, 10 tons, or 40*l.* per fathom.

Wheal Grenville, ½ to ¾; the lode in the stope in bottom of the 130 has improved, and is worth 20*l.* per fathom. New Consols, 1 to 1½; South Condurrow, 4 to 4¼; West Tolgus, 52 to 52½; Wheal Agar, 2¼ to 2½; Wheal Kitty (St. Agnes), 2 to 2½; Wheal Uny, ⅞ to 1½; Great Dyliffe, 4¼ to 4¾; according to the manager's report this week the aggregate points in operation, including engine-shaft and four ends, are worth 75*l.* to 80*l.* per fathom. There are 90 men working at an average tribute of 5*l.* per ton. The sampling on the 20th will be 80 tons of lead ore for the month. Van Consols, 1¾ to 2; the new drawing shaft is at last, we understand, nearly completed; and, as there is a lode said to be worth 4 to 5 tons of lead ore per fathom in this part, it will become immediately available and worked to the best advantage. Great West Van, ½ to ¾; the 46 west, on the ore lode, continues to improve. Cathedral (new issue), par to ¼ prem.; the lode at the shaft is worth 1¼ ton of copper ore per fm. St. Patrick, 1¼ to 1½.

Almado and Tirito, 6s. to 8s. Argentine, 5¼ to 5½; from official advices we understand that the result of the crushing of 450 tons of stuff is a yield of about 1 oz. of gold to the ton, although a great portion of the ores were from the waste or refuse heaps left by the old workers. The lode in the bottom of the Piqué Mine produces about 2 ozs. of gold to the ton. Condes of Chili, 5 to 5½; Birdseye, ¾ to 1; Cedar Creek, ½ to ⅝; Eberhardt and Aurora, 8¼ to 9; Emma, ⅝ to ⅝; Flagstaff, 1¼ to 1⅜; Frontino and Bolivia, 2 to 2⅛; Last Chance, ⅜ to ⅝. Chontales, ¼ to ½; the advices show a loss of 156*l.* 5s. on the month. The gold produced was 380*l.*, at a cost of 536*l.* 5s. About 360 tons, however, of the stuff mixed was not stamped, and this is valued at $1000. Javali, 9s. to 11s.; the advices confirm the telegram as to the profit of 83*l.* The quantity of stuff crushed was 2055 tons, yielding 496 ozs. of gold. Malpaso, ½ to ¾; Exchequer, 2 to 2¼; New Quebrada, 3½ to 4; Richmond, 9¼ to 9¾; San Pedro, 1 to 1¼; South Aurora, 7s. to 9s.; Sweetland Creek, 4s. to 6s.

The Market for Mine Shares on the Stock Exchange has shown a somewhat better appearance during the week, owing to the arrival of favourable reports from several mines; but business has been hindered by the fortnightly settlement.

The northern mineral districts of South Australia are well known to be exceedingly rich, and great hopes are entertained that English capital will be brought to bear in their development. To facilitate this, and to avoid the injury that has been done to legitimate foreign mining enterprise by the charging of exorbitant premiums by the original locators and vendors, the more prominent South Australians are anxious that it should be known that the Government, adopting the principle which, when not abused, has worked so well in Spain, France, Germany, America, and other mineral-producing countries, encourages the opening of the mines by granting the concessions, or the equivalent of concessions, at a merely nominal rate. Mr. J. B. Hughes, of Adelaide, writes that on June 3, 1875, the Government Gazette notified the appointment of a new Ministry, of which Mr. J. B. Boucaut was Premier and Commissioner of Crown Lands. The law prescribes that licenses to search for and remove minerals not exceeding 640 acres in area may be granted, at the discretion of the Commissioner of Crown Lands, for 12 months, on payment of a fee of 1s. per acre, and may in like manner be renewed by him for twelve months. Many licenses have been taken up upon these terms, and a company has been formed to purchase about 10,000 acres included thereunder for 25,000, and 100,000 in fully-paid shares. It is complained that this is too high a premium, and detrimental to the best interests of the colony, just as exorbitant premiums have ruined legitimate enterprise elsewhere. The company is to test the principal lodes, work some, and offer others for sale, either for cash, free shares, debentures, or royalties, the extent and value of the mines secured by this company being sufficient to attract the capital and energies of at least 20 substantial companies. The lands are stated to be held under an agreement to lease from the Government of South Australia for 14 years, at 2s. 6d. per acre per annum (subject to renewal on payment of a small fine), and that the fact of Government, in order to facilitate the export of copper, constructing at its own cost 200 miles of railway says more for the wealth of the district than any number of reports. The prospectus is to be placed on the London market when the Port Augusta Railway Act is passed. Mr. Hughes submits that licenses held by persons who do nothing on the land either in searching for or mining for metals ought at any time after three months to be cancelled, and re-let to any other persons desirous *bona fide* to develope and work them.

Kapanga, 2 to 2½; the advices received by mail this week confirm the telegram previously to hand. The lode where cut is about 3 ft. wide, and is worth about 1 oz. of gold to the ton. Telegrams of later date than the letters say that the lode is yielding rich gold; so that the value would appear to increase as the lode was opened on. St. John del Rey, 330 to 350; the telegram received on Tuesday gives the produce for the month of August at 39,000 oits, and the yield at 7 6 oits per ton. Argentine, 5¼ to 5½; there has been a little better demand for these shares during the week, and some business has been transacted in them. It is reported that a rich discovery of gold has been made in the bottom of the Piqué Mine, worth 2 oz. of gold to the ton. Condes, 5 to 5½. Javali, 9s. to 11s; the advices received confirm the telegram of Aug 18. The mill worked 24 days, crushing 2055 tons of sand, yielding 496 ozs. gold. From the blankets they collected 82 tons of sand, which after treatment in the amalgamators yielded 143 ozs. of gold, making together 639 ozs.—an average yield of 6 dwts. 5 grains per ton. The expenditure has been 916*l.*, including 145*l.* for capital account. The remittance is valued at 1750*l.*, thus leaving a profit of 83*l.* Chontales, 1¼ to 1½; the advices give the quantity of gold extracted as 140 ozs., the produce of 630 tons crushed in 14 days; working average, 4½ dwts. Cost for the month, 536*l.* 5s.; value of the gold, 380*l.*: loss, 156*l.* 5s. They have mined and brought to San Domingo mill 995 tons of quartz, the balance of 360 tons is estimated to give a value of some $1000, together with the tailings saved, and consider that had the new machinery, spur wheel, and pinion, and the pans been here, they would have made a handsome profit on this small amount of quartz brought to mill.

Richmond, 9¼ to 9½; the telegram received gives the week's run at $50,000. A most important circular, issued with the authority of the directors by Mr. T. Westbury Hall, the secretary, will be found in the advertising columns of to-day's Journal, and should certainly suffice to remove any fears which may have been created in the minds of the shareholders by the pamphlet which was circulated on the Stock Exchange during last week. After explaining that the publishers are missing from the address given, and that neither Mr. G. McHenry nor Mr. J. P. Lythgoe, the signitaries of the pamphlet, are shareholders of the company, it is pointed out that the objects of the pamphlet are transparent, and are, firstly, to depreciate the value of the property of the Richmond Consolidated Mining Company; and, secondly, to hold up to public admiration the conduct of the directors of the Eberhardt and Aurora Mining Company. In doing this the concoctors of the pamphlet have not hesitated to have recourse to unscrupulous misrepresentation. The directors have taken the first possible opportunity of giving the shareholders such facts as will prevent their being prejudiced, and their complete answer will soon be ready. They very properly suggest that the time selected by these persons for their operations is most inopportune; never was the mine in so good a condition, or the prospects of the shareholders better; there is at least three years ore in sight, mostly of good quality—the furnaces and refinery are doing good and profitable work—the output for the month of August, just ended, is $272,000, or 54,000*l.* sterling, all produced (with the exception of about 2500*l.*) from ore from the Richmond Mines alone. The very last information the directors have received abundantly justifies them in stating that the profit for the month of August last is very little short of 20,000*l.*

The refinery has this week produced doré bars to the value of £20,000; and although no report from the manager has reached the London office this week, it should be mentioned that the furnaces have had an unusually long run without re-lining; and the cause is attributable to an alteration in their construction, the merit of which is due to Mr. Probert. The complete success of the partial carrying out of his plan will lead to its complete adoption, and effect a great saving in future in repairing costs, and consequent delays. The hydrocyle furnaces devised by that gentleman are now much proved successes that they are likely to supersede entirely the above-built furnaces. The break-up of the conjoint coal and railway ring in America, by which the cost of coal was so greatly enhanced, is a matter of great moment to the Richmond Company, whose yearly bill for fuel is something like 120,000*l.* sterling. The Sentinel records the discovery of a fine body of ore in the Jackson adline, which is near the Richmond works. An additional testimony is thus obtained to the mineral wealth in Ruby Hill. An additional area of some 50 acres has been secured for the Richmond Incoration in the vicinity of their works. At the Richmond Mine conual discoveries of ore are being made in the vicinity of the early-abandoned workings; the skill and energy of the present mine captain, Mr. Potts, have produced this fresh demonstration of the marvellous abundance of the ore bodies which are being struck in all directions.

Eberhardt and Aurora, 8½ to 9; Capt. Drake states that the mill recommenced working on Aug. 24, and he purposed continuing the run until Oct. 1; 2500 tons of assorted ore were on the dumps.

The market for Hydraulic and Gold Washing shares remains quiet. Washing is still actively carried on, and a telegram from Sweetland Creek reports a favourable clean-up. The advices also from Malpaso and Malabar are good, and a demand has sprung up for these shares. Birdseye Creek, ⅞ to ¾; the washing here will, to all appearance, cease at the end of this month, owing to the water company having to repair a long piece of their flume. The directors have issued a report from one of their number, who is now in California, and he writes encouragingly as to the future prospects. Blue Tent, 3 to 3¼; the agent is steadily washing with all the water at his command, and has the claims in first-rate shape for profitable work. Sweetland Creek, ⅛ to ⅜; a telegram from the superintendent, Mr. G. D. McLean, announces the completion of another run, resulting in a profit of $3500. This appears to have been somewhat unexpected; but Mr. McLean stated that he could possibly make one or two profitable runs, and his statement, so far, is confirmed.

Malpaso, ⅝ to ¾; as the superintendent writes that the large return of $6650 telegraphed on the 22nd ult. as the result of 528 hours' washing with 500 inches of water was solely attributable to the improved system of working the mine, there is considered to be no doubt that a monthly return of an equal amount may now be expected, and it is hoped that at least 75 per cent. of this should be profit, or (say) 1000*l.* a month profit. Malabar, 3-16ths to 5-16ths; the superintendent writes that the eastern banks (for testing which the new capital was raised) have been reached, and paying gravel discovered. At the date of his letter—August 9—there was already a bank of gravel between 80 and 90 ft. in height and 300 ft. in width exposed, and to all appearance of good paying quality. A clean-up would be made about the end of August, which he was sure, although part of the run had been over very rough ground, would leave a profit. In British Lead Mines there is also a better feeling prevailing, and in most of the best descriptions business has been recorded. Van, 36 to 38; the mine is unchanged. The south part of the lode, in the 90 west, has been taken down this week, and is worth 60*l.* per cubic fathom. Very capital progress is being made in the erection of the new pumping engine. The usual four-weekly sale takes place next week. Grogwinion, 5 to 6; the monthly report, published in another column, states that a great improvement has occurred in the 24 west, on No. 4 lode, "which adds very materially to the value of the mine." Wye Valley, 6 to 7; the lode in the new discovery in the adit is of immense size; it has been cut in 30 feet, and the south wall of the lode is not yet reached. A large deposit of ore is believed to exist at this point. The 22 is daily improving, and the mine altogether is looking first-class. West Wye Valley, 3½ to 4½; the monthly report states that the mine is making good progress. St. Harmon, 3 to 3½; the bottom level is looking better, and yielding ore. The 35 is also looking encouraging. Llanidloes, ⅞ to 3½; a parcel of lead has been sampled for sale. The bottom of the mine continues to open out in a satisfactory manner, and prospects are good. Great Dyliffe, 4½ to 4⅝; the manager reports that the engine-shaft and four ends, driving by 27 men, are worth together about 75*l.* to 80*l.* per fathom. There are 90 men, working at an average tribute of of about 5*l.* per ton. The mine is opening out well, and after the heavy rains have now got plenty of water for dressing, and have sampled 80 tons of lead ore, for sale on Wednesday next.

Pennerley, 1½ to 1⅝; The 120 west continues to show a kindly appearance. East the lode is at present twitched, but promising for an early improvement. The winze below this level is worth 3 tons per fathom. At Potter's Pit good progress is being made in driving the 90 west, and the lode is promising. The winze in the 75 west, in advance of the 90 end, is worth 2⅛ tons per fathom; others parts of the mine unchanged. Pateley Bridge, 3¼ to 4; the Lumb vein in the 10 is opening out very productive; the part carried yielding over 2 tons of rich lead per fathom. The cross-cut in the 20 towards this lode is being pushed on as rapidly as possible, while the winze sinking below the 10, in readiness for the 20 end, is producing over 2 tons lead ore per fathom, and improving. Fielding's vein in the 20 is also opening out into profitable ground.

Subjoined are the closing quotations:—

Assheton, ¾ to 1; Carn Brea, 30 to 32; Devon Great Consols, 2 to 2½; Holcoath, 30 to 32; East Caradon, ⅝ to ⅞; East Van, 9¾ to 10¼; Glyn, 2⅞ to 3⅛; Great Laxey, 17½ to 18¼; Hingston Down, ½ to ¾; Marke Valley, 1⅜ to 1⅝; Pateley Bridge, 3½ to 4; Parys Mountain, 12s to 13s.; Pennerley, 1⅛ to 1⅜; Penstruthal, ½ to ¾; Roman Gravels, 13¼ to 13¾; Tankerville, 10 to 10½; Tincroft, 16 to 18; Van, 36 to 38; Van Consols, 1⅝ to 1⅞; West Chiverton, 3 to 4; West Chiverton, 16½ to 17½; West Assheton, 1 to 1¼; West Tankerville, 1⅛ to 1⅜; Wheal Grenville, ¼ to ¾; Almada and Tirito, ¾ to ⅞; Argentine, 5¼ to 5½; Birdseye Creek, ⅝ to ⅞; Cape Copper, 35 to 40; Cedar Creek, ½ to ⅝; Chontales, 1¾ to 1¼; Colorado Terrible, 1 to 1⅛; Condes of Chili, ⅝ to ⅞; Don Pedro, 1-16th to 3 16ths; Eberhardt and Aurora, 8¼ to 9; Emma, ½ to ⅝; Exchequer (Gold), 1¾ to 2⅛; I.X.L., ⅞ to 1⅛; Flagstaff, 1⅜ to 1⅝; Frontino and Bolivia, 1⅞ to 2⅛; Javali, 9s. to 10s.; Kapanga, 2 to 2⅛; New Quebrada, 3½ to 3⅝; New Pacific, ½ to ⅝; Pestarena, ½ to ⅝; Richmond Consolidated, 9⅝ to 9⅞; St. John del Rey, 330 to 350; San Pedro, ¾ to 1; Sierra Buttes, ½ to 1; South Aurora, 1¼ to 1½; Sweetland Creek, ⅛ to ⅜; Tecoma, ⅜ to ½; United Mexican, 2½ to 3.

COLLIERIES.—A little more business than usual has been done in colliery shares during the past week, the improvement in the coal and iron trades, though confined to only a few districts, being apparently, as it should be, taken as an indication of better times. We mentioned in our last that the Great Western Railway was giving out orders for 37,000 tons of rails, but this week we hear that 70,000 tons is talked of, and that the order will be divided between the Ebbw Vale and Dowlais Works. Whichever firm, however, is fortunate enough to get the order matters little, as the result would in any case certainly be a great stimulus to the iron trade. With the example of the Great Western before them, it is more than probable that the other lines will come into the market with orders, for the purpose of making repairs, which everything goes to prove have, during the late dull period of trade, been sadly neglected. Neither will our lines be the only buyers, but we may expect in the course of a little time large orders from the foreign railways, which have been even more neglected than our own, while the natural demand for improvements in plant, and the commencement of further industrial works which will result from increased trade, would all tend in the right direction. When making an investment these matters should all be thoroughly weighed. When it is evident that the result to the iron and coal master during a single year in these times is not merely a return upon his outlay, but even a large fortune, it will seem that those colliery shares which during a period of depression such as that through which we have passed can be purchased to pay a present fair rate of interest must be well worth the attention of those having capital for investment. In the Barrow-in-Furness district a better tone is observable in the coal and iron trades, and some of the furnaces have been re-lighted. At Durham there have been more enquiries for coals, and the Darlington Iron Company has, it is said, obtained an order for 2000 tons of rails, while there is a better enquiry for merchant iron. At Birmingham the coal and iron markets have both been strengthened by the advance of coal in the Cannock district. At Newport house coals show a slight improvement. In the South Yorkshire district the price of coal is firmer, and some of the collieries are doing better. Messrs. Pearson and Knowles Coal and Iron Company have declared a profit of 56,121*l.* for the year, of which 18,777*l.* was paid an interim dividend for the half year ending Dec. 31 last, and a dividend at the rate of 6 per cent. amounting to 24,000*l.*, is now recommended for the past half year, leaving a balance of 14,175*l.* to be carried to the reserve fund. At the adjourned meeting of the shareholders in Ebbw Vale it was unanimously decided to reduce the nominal value of the 8*l.* shares to 2*l.*, and the sum paid upon each share from 20*l.* to 20*l.*

It was also decided to raise 250,000*l.* fresh capital by means of preference shares. The plant of the company is valued at 1,782,284*l.*

During the past week a large amount of business has been done in the shares of the Chapelhouse Colliery, which close at 3 to 3½. The new 16-ft. pit is now down 320 yards, and the fresh seam of coal met with and mentioned in our last has been proved to be as follows:—2 ft. 5 in. of coal, 3 ft. of dirt, 2 ft. 4 in. of coal, 3 ft. 2 in. of dirt, and 1 ft. 8 in. of coal, the coal being of superior quality to that now being worked at this colliery. It is not intended to work this fresh seam for some time, but all energy is being directed towards arriving at the Park seam, which yields 6 ft. 2 in. of solid coal, and is of such fine quality as to be worth 1s. 6*d.* to 2s. per ton more than the company is obtaining for its produce. The 15 ft. pit is down 135 yards. The satisfactory rate of profit hitherto made is still being maintained. Llay Hall shares close at 9½ to 10. We understand the new machinery is now all delivered, and good progress is made in its erection. When completed the daily output will be very large indeed. Altami, 5 to 5¼: the old Ferm pit is down 70 yards, and within 3 yards of the Six Feet seam. At the Lily pit operations have been commenced driving out into the Hollin coal. Mold Argoed, 4 to 5; operations are here being confined towards working the "main" seam. West Mostyn shares close at 4 to 5; the two drifts going north-east and south-west respectively are now 80 ft. into the main coal, which goes so far to prove the strata are regular and unbroken. The main coal is 9 ft. thick. Cardiff and Swansea close at 1½ to 2. Newport Abercarn, 3½ to 4; the price has been drooping all the week, opinions differing upon the value of the seam lately cut, the majority of people inclining towards the belief that the seam last met with is one unknown in the district, and that the Black Vein is by no means a certainty at these pits—that is, that it may be found split up into thin sections instead of its usual thickness. Bilson's close at 7½ to 8½. Thorpe's Gawber close flat at 2¾ to 3¼, while Cakemore's are at 2½ to 3. Cannock and Huntington's close at 2 to 1 dis. Hamstead's about 10; Ivy House, 10 to 11; Mid-Cannock s at 26; Sandwall Park, 23 to 25; Spon Lane, 4 to 4½; Walsall Wood about 6; and West Cannock's at 10 to 10½.

At Swansea Ticketing, on Tuesday, 2139 tons of copper ore were sold, realising 17,940*l.* 16s. 6*d.* The particulars of the sale were—Average standard for 9 per cent. produce, 90*l.* 12s. 0*d.*; average produce, 12 7-16; average price per ton, 8*l.* 7s. 9*d.*; quantity of fine copper, 265 tons 5 cwts. The following are the particulars of the two last sales:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
Aug. 22	1417	£ 90 11 0	14 3-16	£ 9 13 0	13s. 7d.	£68 0 0
,, 29	1216	90 10 6	8 1-16	5 14 5	12 11	64 11 0
Sept. 12	2139	90 12 0	12 7-16	8 7 9	13 5	67 1 6

Compared with the last sale, the standard is stationary. The Cape ores gave a produce of 26½ and sold at 18*l.* 5s. 10*d.* per ton, or 13s. 11*d.* per unit of fine copper, thus obtaining a standard about 6s. better than that for the whole sale. On Sept. 26 there will be offered for sale about 1720 tons, from Betts Cove, Union, Cape, New Quebrada, Berehaven, and elsewhere.

NEW CHIVERTON.—The engine-shaft is down nearly 8 fms. below the 50. The 50 north is worth 7*l.*, and the 50 south 10*l.* per fathom; 19 tons of ore sampled.

PLYNLIMMON.—The 24 east is worth 1½ ton of lead ore per fm., and a stope in the back 2 tons. It must be remembered that the shaft is sunk to the 36, ready for driving another level under this rich lode as soon as the funds are provided. There were sold this week 20 tons of lead ore at 14*l.* 7s. 6*d.* per ton, being 17s. 6*d.* per ton above last sale. The liquidator has given notice that the preferential right of the shareholders to shares in the new company will terminate on the 23rd inst.

SUNNY SIDE (Durham).—The great adit level now being driven is within a few fathoms, or it may be a few feet, of the point of intersecting the great lode traversing this district. We are informed that extraordinary results are fully expected.

DRYBURNSIDE (Durham).—We are advised that the works at these mines are progressing rapidly, the arching in the adit level has been completed in several places, and miners are now engaged in clearing the same, the rails will be delivered (500 fms.) in the course of a day or two, which will enable the works to be actively carried out upon the forebreast of the great lodes at several points, where large deposits of ore are known to exist.

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Aug. 26	Great Darren	12	£18 8 6	Walker, Parker, & Co.
	Ystumtean	30	12 12 6	Burry Port Company.
28	Frongoch (Lisburne)	70	13 10 6	Panther Lead Company.
	Rhoswyddol	20	13 0 0	Burry Port Company.
29	Cwm Dwyfor	6	13 16 6	Adam Eyton.
	Ex Arabia (Liverp'l)	20	12 10 0	St. Helen's Smelt. Co.
31	Panty Mine	20	14 1 6	Adam Eyton.
Sept. 6	Tan y Bwlch	50	14 10 0	ditto
14	Talargoch:—			
	Maesyreweddu	50	15 1 6	ditto
	Coetia Llys	70	15 8 6	Walker, Parker, and Co.
	North Hendre	80	14 8 6	Adam Eyton.
	ditto (round ore)	20	16 12 6	Walker, Parker, and Co.
	Prince Patrick	32	14 4 6	ditto
	Rhyd Alun	16	13 16 6	ditto
	Hazel Grove	6	13 0 0	Adam Eyton.
	Celyn Bog	5	13 18 6	ditto
	Duchess of Westmln.	5	12 18 6	Sheldon, Bush, and Co.
15	Plynlimmon	20	14 7 6	ditto

BLENDE.

Date.	Mines	Tons.	Price per ton.	Purchasers.
Sept. 5	Willoughby	25	£ 2 8 0	Ripley Spelter Co.
9	Nantiago	30	3 12 0	Kenrick and Son.
13	Talargoch	210	4 12 0	Vivian and Sons.
—	ditto	30	4 12 0	Bagillt Smelting Co.

BLACK TIN.

Date.	Mines.	Tons c. q. lb	Price per ton.	Amount.	Purchasers.
Sept. 6	Wheal Coates	7 8 1 13	£43 2 6	£319 16 4	Daubuz.
13	Balmynheer	0 38 1 7	—	77 6 10	Redruth Co.

COPPER ORES.

Sampled August 30, and sold at Swansea, September 12.

Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Union Ore	108	8¾	£5 12 0	Betts Cove	105	8½	£5 7 6
ditto	108	8¾	5 10 6	ditto	105	8½	5 7 6
ditto	102	3¾	1 11 0	Algerian Ore	22	24¼	16 18 0
ditto	86	8¼	5 12 6	ditto	18	12¼	8 4 0
ditto	72	9	5 10 6	ditto	23	9½	6 5 0
ditto	72	9	5 10 6	ditto	14	8½	5 18 0
Cape Ore	75	27	18 11 0	ditto	91	7¾	5 1 6
ditto	75	27	18 16 0	ditto	3	16⅞	11 9 0
ditto	75	27	18 10 6	ditto	14	6¼	3 17 6
ditto	75	27	18 16 6	Algerian Pre.	2	41	28 6 0
ditto	66	25¼	17 9 6	Berehaven	122	8½	5 12 6
ditto	64	25½	17 16 0	Knockmahon	78	7½	4 18 6
ditto	64	25½	17 15 6	Telhadella	24	10½	6 19 6
Norway Ore	94	6⅞	4 4 0	Copper Ore	38	6½	3 15 6
ditto	93	6⅞	4 4 0	Cop. Regulus	10	38½	26 0 0
ditto	93	6⅞	4 4 0	Cop. Precipt.	3	43¾	30 1 0
ditto	93	6¼	4 4 0	ditto	1	73½	53 0 0
Norway Reg.	51	12⅞	8 10 0				

TOTAL PRODUCE.

Union Ore	548	£2638	19 0	Berehaven	122	£ 686	5 0
Cape Ore	494	9 25	17 0	Knockmahon	78	384	3 0
Norway Ore	424	2000	2 0	Telhadella	24	310	17 0
Betts Cove	210	1128	15 0	Copper Ore	38	260	0 0
Algerian Ore	187	1352	15 6	Copper Reg.	14	143	3 0

COMPANIES BY WHOM THE ORES WERE PURCHASED.

Names.	Tons.	Amount.
P. Grenfell and Sons	81½	£ 483 15 9
Nevill, Druce, and Co.	298	2,155 5 6
Vivian and Sons	506½	3,011 16 0
Williams, Foster, and Co.	895	9,197 2 3
Mason and Elkington	36	198 18 0
Charles Lambert	210	1,119 17 0
Sweetland and Co.	19	71 14 6
Landore Smelting Company	86	1,702 7 6
Total	2139	£17,940 16 6

TOTALS AND AVERAGES.

21 cwts. Produce.	Price.	Per unit.	Standard.
Whole sale ... 2139 ... 12 7-16 ...	£ 8 7 9	13s. 5d.	£90 12 0

Copper ores for sale on Sept. 26.—Betts Cove Ore 120, 81, 81, 56, 100—Union Ore 100, 100, 102, 100—Cape Ore (about) 340—New Quebrada 40, 40, 40, 40, 40, 40—Copper Ore 79, 65—Berehaven 64, 58—Copper Regulus 5, 9, 10—Copper Matt 9—Copper Ore 2.—Total, 1721 tons.

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20 Alamillos, £2 6s. 3d.	15 Fortuna, £6¼.	50 Pennant, £6¼.
30 Australian, £2 3s. 9d.	10 Great Laxey, £18.	60 Parys Mountain, 14s.
50 Birdseye, 16s.	50 Glyn, £3.	40 Pateley Bridge, £3 16 3
100 Chapel House, £3½.	70 Gt. West Van, 10s.	20 Roman Gravels, £13½.
70 Cedar Creek, 11s. 9d.	20 Glenroy, £5.	30 Richmond, £9 16s. 3d.
5 Carn Brea, £33.	50 I.X.L., 20s.	50 St. Patrick, 27s. 6d.
10 Cape Copper, £39.	70 Ladywell, 28s. 9d.	20 Tankerville, £10½.
20 Devon Consols, £2¼.	20 Linares, £6¼.	25 Van, £37½
30 East Van, £10.	100 Llanrwst, 23s. 6d.	50 Van Consols, £1¼.
20 Eberhardt, £8 17s. 6d.	50 Marke Valley, £1½.	40 West Tankerville, 33s9
50 Exchequer, 43s. 9d.	70 North Laxey, 16s.	20 Wheal Crebor, £2¾.
	50 Pennerley, £1 6s. 3d.	

G. E. S. has a FEW SHARES in the BODIDRIS MINE FOR SALE at par. See report in this day's Journal.

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	Buyers.	Sellers.		Buyers.	Sellers.
Assheton	£ ⅝	£ ⅞	Penstruthal	11s. 3d.	13s. 9d.
Cathedral (New issue)	26s.	28s.	Roman Gravels	£ 13¼	£ 13¾
Chapel House	3	3¼	Richmond	9½	9¾
Eberhardt	8¾	9	South Condurrow	3¼	3½
East Van	9¾	10¼	Tankerville	10	10½
Emma	½	¾	Tincroft	17	17½
Glyn	3	3¼	Van	36½	37½
Great Laxey	18¼	18¾	Van Consols	1¼	1½
Great West Van	11s. 3d.	13s. 9d.	West Assheton	1	1¼
North Laxey	13s. 9d.	16s. 3d.	West Chiverton	17¼	17¾
Parys Mountain	12s.	14s.	Wheal Kitty	2	2¼
Pateley Bridge	3¾	4	West Pateley Bridge	5	5½
Pennerley	1½	1⅜	Wheal Crebor	2⅜	2½

GLYN.—Shares should be secured at once. The satisfactory meeting held on the mine shows that there are great chances of success. All the unallotted shares were taken up at £3, mostly by local shareholders, thus proving their confidence in the property.
PENSTRUTHAL.—The reports received from this mine during the past week are highly satisfactory; indeed, an important discovery of copper is looked upon as certain within a very short time.
GREAT WEST VAN.—From private inspection we hear that the several points of operation are worth from 9½ to 10 tons of lead per fathom, with the prospects of further discoveries. These shares are the cheapest in the market.
C. C. and Co. are always prepared to deal at the lowest current prices in these shares either as BUYERS or SELLERS.

Notices to Correspondents.

*** Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt; it then forms an accumulating useful work of reference.

DRY SEPARATOR—"H. S." (Birmingham).—The address of Mr. B. W. Hart, who was interested in the dry separator described in the *Mining Journal* of Dec. 4, 1875, is not at hand at the moment, but an early opportunity shall be taken of obtaining it, and the contents of the letter of "H. S." shall be communicated.

Received,—"H. C."—"C. E." (Glasgow): Send the particulars, and we will publish them—"Shareholder" (Van Consols) should apply to the Secretary for the information he requires—"Natator:" We could not afford the space for the article—the copy shall be returned on receiving a proper address—"W. N." (Amsterdam): We will endeavour to obtain the particulars for next week's Journal—"Shareholder" (Richmond): The letter shall appear if the writer will append his name to it—"Reader" (Leeds)—"Anonymous" (Glasgow): We could not publish such remarks—they are neither just nor sensible. You may not agree with the speaker, but ridicule is quite out of place—"R. W."—"E. M." —"Reformation:" Next week—"Shareholder" (New North Pool).

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, SEPTEMBER 16, 1876.

THE IRON AND STEEL INSTITUTE AT LEEDS.

Arrangements have now been concluded for the annual provincial meeting of the Iron and Steel Institute, which will commence at Leeds on Monday next, and extend over the four following days. The preliminary programme, which has just been issued, promises a large and very successful gathering. Leeds is noted as the centre of the Yorkshire woollen trade, and in that respect it has a more direct sympathy with other trades than those of iron and steel; but it is, nevertheless, attaining to a very respectable position among the chief seats of the iron and engineering trades, and when we mention such works as those of FAIRBAIRN, KENNEDY and NAYLOR, J. WHITHAM and SON, the Monkbridge Iron Company, the Kirkstall Forge, Messrs. KITSON and Co., TANNETH, WALKER, and Co., GREENWOOD and BATLEY, and HAWTHORN, DAVIS, CAMPBELL, and DAVY, we need add no more in proof of the very important part played by the town of Leeds in the field which it is the special function of the Institute to cultivate. Some of these firms have long been distinguished for the very excellent quality of the machinery they produce, while others have made a speciality of the heavy machinery required for locomotive and marine engineering. Each of them will have something to show to their visitors that will be of interest if not of novelty, and it may be remarked that while Manchester last year afforded the Institute opportunities not otherwise nor elsewhere available of witnessing the manufacture of the light machinery required for cotton spinning and kindred occupations, Leeds on this occasion furnishes an equally comprehensive insight into the conditions under which tools of the very heaviest kind are produced.

Perhaps the most attractive part of the programme is the promised visit on Friday to the new iron district of Frodingham, in North Lincolnshire. This is a locality quite out of the beaten track, and one which, on account of its recent connection with the iron trade, very few have had the privilege of visiting. Five works have been established in this district for the manufacture of pig-iron, having at the present time 19 furnaces available for use. The largest are the works of the Trent Iron Company, with seven furnaces. The ironstone here is worked in the "open," only a slight bearing being above the bed of ironstone, which varies in depth from 12 to 20 ft. Hence the work of mining is much similar to that of quarrying, and the cost of getting the ironstone is much cheaper than that of mining the ironstone of Cleveland, with which for purposes of cheapness and quality the iron of this locality is brought into constant comparison and competition. The resources of iron ore in the Frodingham district are very extensive, but the prosperity of the district is rather impeded by the absence of an immediately contiguous coal field, as in the case of every other iron field in Great Britain, with the exception of Northampton. Most of the coal and coke required for the smelting of Lincolnshire iron comes from the Barnsley field, at a cost for carriage of 3s. to 3s. 6d. per ton, but a large quantity is taken from the South Durham coal field at a freight of not less than 7s. 6d. to 8s. 6d. per ton. The iron smelters of Lincolnshire make high claims on behalf of the quality of their iron. They affirm that "it is found to realise prices superior to the iron generally produced from the oolitic ore, and will by proper management and fuel be found to stand on an equality with the hematite irons, now extensively used in the process of manufacturing Bessemer steel." It is calculated that 3 tons 12 cwts. of raw ore is required to produce 1 ton of pig-iron. The ironstone is held raw in the furnace, acting as its own flux, so that the heavy expense of calcination, and the cost of limestone employed for the purpose of fluxing, in the Cleveland district are avoided. Most of the Lincolnshire furnaces have been constructed on the model of the Cleveland furnaces, and by Cleveland engineers, so that there will be little to learn in the way of blast-furnace construction; but practical men will have an opportunity of satisfying themselves as to the extent to which Lincolnshire will be able in the future to compete successfully with Cleveland, and the acquisition of this knowledge will be to some a matter of no small consequence. A paper "On the North Lincolnshire Iron District" will be read at the meeting of the Institute, by Mr. G. DOVE, jun., and with this in their hands members will be better able to appreciate all they may see and hear in the course of their excursion.

Only a very limited number of papers have as yet been promised, but all of them are likely to be of great interest, and they are distinguished for the diversity of the subjects which they will introduce for discussion. On the first paper, which deals with the geological features of the neighbourhood of Leeds, there is not likely to be much controversy, inasmuch as the South and West Yorkshire mineral resources have been gauged and determined long ago. It will, however, be new to many members to know that the iron ore of South Yorkshire, which has performed so remarkable a part in the productions of the Bowling, Low Moor, and other great Yorkshire brands, is found in nodules, so numerously distributed as to form intermittent seams, extending here and there for a few feet, and then lost for a few feet more. Owing to the great cost of getting the white and black mine ores of South Yorkshire, they are being largely superseded by the introduction of foreign ores, those of the Cumberland district being preferred, but Lincolnshire and other ores of a cheaper kind are often used as a mixure. There are altogether 54 blast-furnaces in the West Riding of Yorkshire. A number of the principal works, such as those of the Farnley and the Ardsley Iron Company, are situated in the immediate neighbourhood of Leeds. It is not usual, however, to purchase the pig-iron of the Leeds district in its crude form, as the great bulk of it is converted into wrought-iron at the various works round about; and so particular are the manufacturers to produce the best and the purest of iron that bars made from Leeds pigs cannot be purchased for less than 20*l.* to 22*l.* per ton, while the price of ordinary bars is not more than 7*l.* to 8*l.* The wrought-iron of this district is chiefly worked up into railway tyres, crank axles for locomotives, and other purposes in which special excellence and strength are requisite. Round about Leeds the iron ore is worked in three bands of nodules, which lie at a depth of about 2 ft. above the black bed coals; and, as these bands when added together would only make a seam of about 4 to 6 in. thick, the extreme difficulty and heavy cost of working the ore may easily be estimated. The Yorkshire coal field, from Leeds southwards, contains in addition to these bands of iron ore, now nearly worked out, large supplies of ganister fire-stones, fire-clays, and coal. The latter, however, although largely manufactured into coke, is not so well adapted for foundry purposes as the harder coke of South Durham, which is extensively imported into the district for this purpose.

Advantage will be taken of the meeting in Leeds of the Iron and Steel Institute to call together the members of the newly-formed British Iron Trade Association, and there never was a time when the deliberations of this useful organisation was more likely to be productive of good. The iron trade is suffering from the most remarkable depression it has ever known. That depression has been attributed to a multiplicity of causes. Chief among these, however, we hear constant reference made to the effects of foreign competition and the influence of protective tariffs. These are two matters that come peculiarly within the scope of the Association, and it will be well if its attention is directed to an investigation of the exact condition under which the iron trade of this country is carried on in relation to the circumstances of competing nations. To know a disease is said to be half its cure, and if the British Iron Trade Association can familiarise our manufacturers with their exact position in the race of competition, and the measures necessary to mitigate the present distress, it will have done a great work, and more than justified its short existence.

Every needful provision seems to have been made by the local committee—of whom Mr. F. W. KITSON is President—for the reception and accommodation of members, and the promises of hospitality held forth justify the expectation that notwithstanding the increased and increasing difficulty of entertaining an Institute whose members have within eight years advanced from less than a hundred to close upon a thousand, and in spite of the excessively bad times, Leeds will not fail to keep up the traditions of Glasgow, Belgium, Barrow, and Manchester.

EXPLOSIVES.

Major MAJENDI, Her Majesty's Inspector of Explosives, deserves the thanks of the mining interest for the manly way in which he has discharged his duty in reference to the fatal explosion at Cymmer, Glamorganshire, and the honest SAXON language in which he has denounced the carelessness which contributed to bring about that lamentable occurrence. Dynamite, and explosives generally, are so essential to mining operations that everyone, especially the companies immediately concerned, must be deeply interested in seeing that the proper safeguards which hedge round their use should be rigidly enforced. Chemists and scientists may discover or perfect articles of the greatest utility and value for mining purposes, but unless the practical application of these are entrusted to experinced and careful workmen it would be almost better that such inventions had never been made known. We are all wise after an event, and after an explosion or fatal accident of any kind we can all see the mistakes which have been made and the precautions which should have been taken. The Government Inspector has acquitted the company and its servants of criminal neglect in reference to the Cymmer explosion, but it is a sad reflection upon the skill and experience of those entrusted with the use of the explosive that the neglect of ordinary care and precaution produced such a lamentable result as the loss of 13 lives. It is, alas, too true that familiarity breeds contempt, and those who are daily engaged in most dangerous avocations show a reckless disregard for their own safety and that of their comrades, which is most astounding, and which cannot be too strongly denounced. Only last week JOHN VOSS, a collier, was charged before the Treherbert magistrates with opening his Davy lamp whilst underground in the Abergorchy Colliery. The evidence showed that this man managed to conceal a self-made key upon his person, with which he picked his lamp, and re-lit it with some matches, and that, for aught he knew to the contrary, when the whole working was filled with gas. This man, at the conclusion of the case, made a statement which, if true—and there is no reason to doubt it—is enough to startle anyone who has the feelings of humanity. He had not only opened the lamp with a key which he had concealed with a long string about his person, but he alleged it was a common thing for colliers so to do, and that he had been taught how to make this skeleton key in one of the fiery mines of an Aberdare colliery. What can can be said to these things? Dynamite is perfectly safe and innocent when properly used and when worked in accordance with perfectly well-known rules and regulations, but when these are neglected or openly set at defiance it is indeed a dread enemy. The Diamond Rock-Boring Company, who had the carrying out of the works at Cymmer, can scarcely find fault with the censure upon its officials which the Government Inspector has thought it his duty to embody in his report, whilst the unmistakable language in which it is couched should teach salutary lessons to all who have the management and use of explosives generally, and should thus impart greater confidence in its safe application.

If the Diamond Rock Boring Company, and all others who have to use explosives, would make one able and experienced man at every working responsible for its safe storage and use (no matter to whom he delegated its details), the law, too, would hold him responsible, at all events, for loss of life. He then would see that his subordinates were trustworthy men, knowing and appreciating the danger by which they were surrounded, and thus more efficient steps adopted whereby these serious and lamentable catastrophes would be reduced to a minimum. Dynamite and explosives generally are only safe in the hands of experienced and careful workmen. The ignorant and reckless should not, under any circumstances whatever, be entrusted with their application either above or underground.

RAILWAY ACCIDENTS.

Captain TYLER, the chief Government Railway Inspector, has just presented to the Board of Trade his official annual report as to the fatal accidents and casualties which have occurred during the past year. Its details can scarcely fail to be read with the deepest interest, and it should impart confidence to the public as to the comparative safety of travel by means of our great iron highways. Still, there are many items in this report which demand, as, doubtless, they will receive, the careful attention of the directors and responsible managers of our railways. The causes of the majority of the casualties which occur have long since been known and repeatedly alluded to in former reports, but how to remedy them in the bustle and excitement of everyday travel is a solution which will never be practically realised. Managers and directors may be perfectly well aware of the many causes which contribute to accidents, and the servants may be most zealous and faithful in the discharge of their respective duties, but there are many causes which contribute to accidents which human foresight can never fathom and never prevent. All that can be done is to adopt every means of precaution, but we must realise the fact of "danger" when the exigencies of life demand almost lightning rapidity, and whilst our great iron highways are under human agency and control.

In round numbers we may state that only one death occurred out of every thirty million of passengers conveyed—that is to say, from causes beyond their own control. Will our readers endeavour to realise this for a moment? Amidst the worry and excitement of railway travel, only one death out of every thirty million passengers! We undertake to say that proportionately there is no other country in the world where such a state of things can be shown, and where such comparative immunity exists. Nay, more, the Inspector officially informs us that throughout the whole year there were only 17 passengers killed from causes altogether beyond their own control, the remaining 117 passengers killed being the result of causes involving greater or lesser responsibility on their own parts. Collisions, defects either in the permanent way or in rolling stock, and other what are termed "preventible causes" brought about the remainder of the accidents, but we can scarcely expect that there will be any material reduction in the number of accidents from these "preventible causes," for, except in the most glaring instances, can we reckon upon greater care in the maintenance of the permanent way or more caution in the working of our lines. Collisions and accidents of every kind are the common enemy, not only of the directors and managers of our railways, but of every official, and all, therefore, have an interest in their avoidance, and, as a rule, take every precaution to ensure safety. We have not yet arrived at the millenium day when there will be a complete immunity from accident, and this fact should be recognised by one and all, so that each should do all which lies in his power to lessen the number of those accidents which cannot be altogether avoided.

The total number of accidents during the past year was 161, causing the death of 134 passengers and 1806 passengers injured; there were 765 persons killed and 3618 injured employees of the companies, and 391 killed, and 331 injured persons, described as trespassers or suicides, either criminally or needlessly exposing themselves on the rails. This gives a total of 1290 killed and 5755 injured during the past year. This is a fearfully large number surely, and although we can scarcely expect any very material decrease in the deaths among the number of passengers carried, so long as passengers and goods trains are run on the same rails, there is a fearful sacrifice amongst the employees and those who either wilfully or carelessly expose themselves to danger which should be materially lessened, if not prevented, and which we cannot but believe would be done with proper care and precaution.

Of course, defects in engines, in rolling stock, in the permanent way, trains following one another on the same line, shunting at crossings or stations, or from wrongly-faced points, have each and all contributed to fatal results, but of all causes collisions were the most pregnant with fatal consequences. Out of the total of 161 accidents no less than 100 were the result of collision. Many of these could probably have been prevented under existing arrangements, but do not their large number and the fatality of their character point to the desirability, if not indeed the necessity, for the goods and passenger traffic being worked upon separate lines? One prolific source of accident was the shunting of goods trains to make way for passenger trains; and if it could be clearly ascertained the pecuniary loss sustained through accidents from this cause, which probably would have been avoided had the third line, or goods rail, been laid down, it would go a considerable way towards paying the interest upon the capital expended. The outlay for a goods rail over our principal iron roads would undoubtedly be large, but the number of accidents which would probably be thereby avoided, the great saving of valuable property clearly traced to this cause, the saving of immense sums in engine power for shunting, &c., and the more expeditious and safer transit of both passengers and goods would be more than a compensation for the expenditure made. Many of the accidents named in the able and interesting report of Captain TYLER may probably be prevented by greater precaution, but there would soon be a most perceptible diminution if the passenger and goods traffic were separated and worked distinctly, and this will be the policy of the future, however long it may be delayed.

OUR RAILWAY IRON ABROAD.

The shipments of railway iron from the United Kingdom are still declining, but at rather a slackened rate. Thus in July the exports amounted to 41,702 tons, as compared with 71,601 tons in July, 1875, while in August the shipments footed up to 50,906 tons, as compared with 61,078 tons in August, 1875. In the eight months ending August 31 this year the aggregate shipments were 274,223 tons, as compared with 391,936 tons in the corresponding period of 1875, and 576,196 tons in the corresponding period of 1874. The decline in our railway iron deliveries to the United States is something frightful; thus we only sent the Americans 160 tons in the first eight months of 1876, as compared with 17,591 tons in the first eight months of 1875, and 78,531 tons in the first eight months of 1874. There was a slight increase in the shipments to Sweden and Norway in August, and 7172 tons went last month to Germany, as compared with 206 tons in August, 1875. Spain, again, took 10,589 tons last month, against 7428 tons in August, 1875; and Italy 17,355 tons, against 7024 tons. There was a heavy decline in the shipments in the first eight months of this year to Peru and Chili; but our railway iron exports to Brazil expanded to August 31 this year to 11,794 tons, against 7518 tons in the corresponding period of 1875. The exports to British America declined to 44,767 tons to Aug. 31 this year, as compared with 78,246 tons in the corresponding period of 1875; and those to Australia also receded to 16,641 tons, as compared with 54,274 tons. On the other hand, the exports to India rallied from 21,291 tons in the first eight months of 1875 to 34,695 tons in the first eight months of 1876. Upon the whole, the aspect of the returns is extremely unsatisfactory, but still there has been rather more business doing than could, perhaps, have been anticipated under all the circumstances.

The demand for our railway iron in Russia appears to be declining almost as ominously as the American demand has fallen off. The declension seems to be also due to a similar cause, although in a less marked degree—the growth of indigenous production. The demand for our railway iron in the United States has practically ceased, and there is no immediate prospect of any revival. The great depression which prevails in the Canadian railway interest has reacted, of course, upon the Canadian demand for our railway *materiél*. There is also a check for the present in Australian consumption. One hopeful feature presents itself, however, in the exports—that the shipments of August were more considerable than those for any previous month for some time past. Thus, the exports month by month this year have been as annexed:—January, 2,380 tons; February, 18,099 tons; March, 21,939 tons; April, 5,186 tons; May, 50,299 tons; June, 36,902 tons; July, 41,702 tons; and August, 50,906 tons.

It is difficult to discern any signs of improvement in the Canadian railway interest. For the time being Canadian railway credit is at the lowest possible ebb, and nothing but disappointment and vexation has, as a rule, been the fate of four out of every five Canadian companies. Population is scanty, climate is severe, traffic is meagre. Such are the conditions upon which the Canadian railway interest has to vegetate as best it may. With regard to British India, the prospect is more hopeful, some State railways being now in steady course of execution, while the extent of railway now opened out in British India is sufficient to render the consumption of railway *materiél* for maintenance purposes not altogether unimportant. The Australian demand for our railway iron has been comparatively languid this year, but we look forward to an improvement during the next few months, railway works of some importance having received legislative sanction in Victoria and New South Wales, which may be regarded as the leading members of the Australasian group of settlements. The extremely moderate prices now current for railway iron ought, in the ordinary course of things, to stimulate the demand for it; but we live in such extraordinary times—that is, such extraordinary times for the iron trade—that all ordinary rules and principles appear to have broken down, and to have ceased to have their accustomed force and virtue. We can only hope for the best.

THE LATE LIONEL BROUGH.—Few men have rendered more essential service to the mining interest, and few more legitimately earned the esteem of a very large circle of friends, than Mr. LIONEL BROUGH, the late Government Inspector of Mines for Monmouthshire and the West of England, whose death took place at his residence, Clifton, on the 8th inst. During the 20 years he held the onerous and responsible post of Inspector he laboured assiduously in the discharge of his duties, and although ever ready and even desirous of affording to colliery proprietors and managers the benefit of his great experience in the ventilation and practical working of their mines, he was the fearless and independent champion of the rights of the working colliers, whose interests and welfare he always held to be his primary duty. He was exactly the man for the position he held, and the duties of the office were exactly those which suited his tastes and his undoubted talents and extensive practical knowledge. In the quiet, unostentatious, but efficient discharge of his public duties, recklessness and gross carelessness were severely visited, but unintentional mistakes and oversights were regarded with a leniency which showed that he was possessed of a kind and generous disposition. Those most intimate with the deceased best know how to appreciate the manner in which he discharged his official duties, and how to recognise the loss which the mining world (especially the West of England district) has sustained. He was acknowledged by all connected with mining to be an authority

on such matters, and his opinion was based upon practical and entific experience and sound mature judgment. He was one of e chief promoters and most active and zealous supporters of the uth Wales Institute of Engineers, and his observations at the meet- gs of this valuable association were always received with weight d consideration. As a private friend none possessed a warmer truer heart, and none was more ready with a helping liberal hand the hour of distress and case of need. Both in public and pri- te life the late Mr. Lionel Brough will long be remembered, and e memory cherished as one who heartily strove to do his duty in station of life to which God had called him.

THE DANKS PUDDLING MACHINE.—We have information that Danks in his efforts to secure his patent has appealed to the licitor-General under the terms of the Patent Act, and has been ccessful in establishing his exclusive claim to the use of water any other artificial aid for keeping cool the ends of his revolv- furnace, and to employ the cellular flue attached to the front the furnace. These have been found by experience to be the luable parts of the machine, and water applied to other parts, but applied to these, is declared to prove of but little comparative vice in the working of the apparatus. The decision is of much nificance to the iron trade, since it places at the disposal of one ventor a method of facilitating machine puddling which has taxed ingenuity of all the rest. Only the use of a class of fettling re- actory beyond all former experience will make it impossible to pense with the cooling of the lining of a rotary puddler at the ints indicated, and a sufficiently refractory lining has been the fficulty of every experimentalist. The Solicitor-General's ruling ll affect other methods of machine puddling than that of Mr. anks already to some extent in use in this country, and, judging m preparations now being made in the North of England, likely be by-and-bye somewhat largely in use at leading ironworks. ey were these preparations which led, it may be, to the action hich the well-known American inventor named has taken.

MACHINE BORING IN CORNWALL.—The soliciting of subscriptions provide the guarantee fund for paying the speed money for the rking of the Beaumont Drill has met with very general dis- probation; those who have the welfare of Cornish mining most heart regarding it as an attempt to sacrifice the prospects of get- g the rock-drill introduced into Cornwall to the interests of an ividual inventor. In the Supplement to this day's Journal several mmunications bearing upon the subject will be found, and as they from authorities well able to pronounce a reliable opinion, they ould be read with care by all concerned.

NAVY COAL.—The export of coal for the use of Her Majesty's ips on distant stations represents a very heavy expense. Austra- n coal, which has been employed as a makeshift, does not come t satisfactorily from the test, being very soft, quickly consumed, d very smoky. The Lords of the Admiralty have recently had ought under their notice samples of coal obtained from some New land coal beds, which are said to fulfil all the requirements for e use of vessels in the navy. Their lordships have accordingly dered experimental trials to be made with coal from these beds, d a report of the results to be submitted.

COAL AND IRON IN THE UNITED STATES.—It is reported upon ap- rently good authority that the Lehigh and Eastern Railroad Com- ny, a corporation owning 100,000 acres of coal lands in the Lehigh l-y, proposes to proceed immediately with the construction of a lroad which is to form the connecting link between the New gland States and the Lehigh coal fields. It is expected that a at bridge across the Susquehanna, at Havre-de-Grace, on the line the Philadelphia, Wilmington, and Baltimore Railroad will be tirely renewed in iron before the close of this year. Mr. W. E. Coxe, superintendent of the Philadelphia and Reading Railroad mpany's rolling-mill at Reading, Pennsylvania, has published an ay in which he argues strongly in favour of well-made iron rails, aiming that the use of such rails by many roads is more econo- cal than the use of Bessemer steel rails. The production of an- racite and bituminous coal in Pennsylvania to Aug. 19 this year esented a decrease of 1,083,089 tons as compared with the corre- nding period of 1875. The sale is noted of 10,000 tons of steel ils to a Western railroad company, at $65 per ton. Old iron rails ve been quiet at New York, at $20 to $22 per ton currency.

SULPHUR IN ICELAND.—In reporting upon the trade and com- rce of Denmark, Her Majesty's Consul devotes some space to the lying portions of the kingdom—Greenland, Iceland, and the roe Islands. He tells us incidentally that the exportation from Greenland of the mineral known as cryolite is increasing yearly, d amounts now to about 30,000 tons per annum. He also refers the formation of an English company, with a capital of 25,000*l.*, 5*l.* shares, for the purpose of working the extensive sulphur mines the North and East of Iceland, which have been leased to a British ject for 50 years by the Danish Government. An exploring party, luding an English geologist and a chemist, visited the fields last ar, and reported most favourably on them, stating that the quan- ty of pure surface brimstone alone exceeded 12,000 tons. Mr. Crowe ms that the specimens submitted to analysis have yielded as ch as 95 per cent. of pure brimstone. As the producing fuma- es are within easy reach of Xuswick, a good harbour easy of na- igation, and only four days by steam from Scotland, he thinks the mpany ought to give a very good return,

MINING IN CORSICA.—From the just published report by Her Majesty's Consul on the trade and commerce of the island, we learn at the Victoria Copper Mine of Linquizetta, the first mine in rsica which was conceded to an English association, has quite re- ently ceased to be worked. Consul Shortt has not been informed the reason, but he is inclined to believe that want of ore has not en the cause of this. The South Aurora Mining Company, he adds, s lately purchased a silver-lead mine at a place called Lama, which ey prove to be an important undertaking. The same company s also bought a copper mine at Olmeta, and Mr. Shortt understands at the specimens of ore are of a rich quality, but there are great ficulties of transport to be surmounted. He is of opinion that "nothing but very skilful management can render these mines pay- ing businesses."

COAL IN NORTHERN FRANCE.—Consul Hotham's report on the de and commerce of Calais has just been issued, and as that officer s now been stationed at that port for more than 17 years, con- erable weight attaches to his remarks. The coal mines in the partment of the Pas de Calais are stated by Capt. Hotham to be in a prosperous condition. In 1874 (the full returns for 1875 were t available when our Consul's report was drawn up) the total oduce was, indeed, 8901 tons less than in the previous year; but ceptional quantities had been required since the war, and it is, erefore, hardly fair, perhaps, when comparing results, to take the ars 1872 and 1873 into account. In 1874 2,973,789 tons were ised, to which must be added 34,451 tons in stock, making a total 3,008,240 tons. This quantity was disposed of in the following anner:—

	Tons 248,638	
For working the mines, &c.		
For house use, manufactories, &c., in Pas de Calais	748,920	997,558
Sold to the Department of the Nord		999,797
Sold to other Departments		986,893
Stock in hand at end of year		23,991
Total		3,008,240

The average price of this coal was 14s. 5d. per ton at the pit's mouth. It appears that in 1853, when these coal mines were first fully at work, the total consumption of coal in this department was 390,744 tons; in 1863 it was 713,915 tons, and in 1873 1,437,765 tons. The consumption has, therefore, roughly speaking, doubled every ten years: 19,464 workmen were employed in connection with these mines in 1874—15,600 in the pits, and 2864 above ground. Wages appear to have varied very little during the last year or two. In 1873 the workmen underground earned 4 fr. 1 c. per diem, those above ground being paid 1 fr. 6 c. In 1874 the former received pre- cisely the same, and the latter three centimes more. The total amount paid away in wages in 1874 by the different companies was 21,253,236 fr., a sum equivalent to 850,129*l.* sterling. During the same year accidents occurred to 956 workmen; 42 of them were fatal, the proportion of fatal accidents being one to every 463 work- men; in 1873 it was one to 465. The coal mines in the Depart- of the Nord have hitherto been slightly more productive than those in the Pas de Calais. Capt. Hotham has not been able to procure full returns for 1875, but for the first six months of that year, the quantity in the two departments respectively was—Pas de Calais 1,610,521 tons, Nord 1,601,549 tons, showing a slight excess in favour of the former.

REPORT FROM CORNWALL.

Sept. 14.—Matters still continue in a very depressed state, and it is very evident that unless speedy relief comes a very serious loss will be incurred by the smaller class of adventurers, and that many mines will succumb. Not that there is any evidence that the larger concerns are likely to be injuriously affected to any serious extent, at any rate at present, for where there is the power to hold on no doubt that is the wisest course, and one that in the end will be re- warded.

Boring machines are the topics of the hour. It would be very interesting if we could have a complete history of the efforts which have been made to introduce boring by machinery into Cornwall. Though decidedly spasmodic in their character, they have now con- tinued for nearly half a century. At first they had less to do with pecuniary considerations or matters affecting the practical conduct of mining than with philanthropy. It was seen that the labour of "heating the borer" in, too frequently, ill ventilated ends was a fruitful source of disease among the miners, and this was one of the points in view when, in 1834, Mr. G. C. Fox offered in connection with the Royal Cornwall Polytechnic Society a premium for the best essay on the diseases incidental to miners, and the best prac- tical means of removal or alleviation. "Beating the borer" and the ills thence arising was one of the special points referred to in the essay by Mr. R. Lanyon, to which, in 1835, Mr. Fox's prize was awarded. Mr. W. Reynolds followed this up by the offer of 5*l.* for the model of an instrument which should supersede the use of the mallet and borer. That award, we believe, was never made.

There was not then and for many years after any boring machine in existence applicable to the conditions of Cornish mining, but when invention once began to be turned in this direction there came a continual flow of mechanical borers into Cornwall, incited thither by the efforts of the Polytechnic Society. Whatever comes of the pre- sent trials it should not be forgotten that this society has been for many a year pioneering the way. Mr. Brunton first introduced a wind hammer, and some years later Mr. Nicholas Sara a drill. Then in 1864 Crease's borer was practically tested at Messrs. Freeman's, Penryn, and a first silver medal awarded, while in the same year Mr. Hosking had a premium for a hand borer. In the following year another hand borer was shown by Mr. Hicks. In 1867 several boring machines of various kinds were exhibited—some specially adapted to tunneling—with drawings and descriptions of others, among them Doerings, Haupt's, Brunton's, Beaumont and Lobcock, Bergstrom, Jordan, and Darlington. And hence resulted the first practical trial ever made in Cornish mining. Doering's was tried at Dolcoath and Tincroft; Crease's at East Gunnislake. Neither attained that suc- cess in practice which had been hoped for. From that time to the present hardly a year has passed that a new rock drill or two has not figured among the Polytechnic exhibits, and we have had introduced in succession the Burleigh, Kainotoman, Darlington, Ingersoll, Levett, and Diamond, among the number. The Darlington has been tried at Wheal Agar, but hardly as yet with success, and arrangements were made to work the McKean in the eastern part of the county.

At length the necessity of doing something more than mere exhi- bition—for the practical trials made were, of course, only partial—became necessary. There was no particular difficulty in bringing a machine into the county that would pass satisfactorily the ordeal of an experimental working at the Polytechnic exhibition, and many of the machines it was known did good work elsewhere. But the conditions in Cornwall were peculiar. The rocks are, as a rule, very hard; and, in the course of the trials made in the county and under similar conditions outside, it was found that the machines got knocked about a good deal, and that the borers were apt to "fitcher," or stick. Some of the machines, in fact, erred from their very per- fection regarded as machinery. They were too automatic, and, therefore, too complicated. It was seen that the borer for the county must be at once simple, strong, and effective; and the idea gradually gained ground that the only way to bring the competitive rivalry to an issue was to have a trial in actual mining, extending over several months. But how to do this was the difficulty. Here it is that last year Mr. Basset steppe l in with his munific nt offer of 200*l.* towards a premium of 500*l.* for the best practical borer. Cir- cumstances, for which the society is in no way responsible, have taken this matter out of the hands of the Polytechnic, but the work is going bravely on nevertheless, and ere long we shall see, under the auspices of the county committee formed at Mr. Basset's in- stance, the Beaumont percussion borer at work in Carn Brea.

Meanwhile, one practical solution, as the readers of the *Mining Journal* are well aware, has already been attained. Dolcoath has solved the problem in its way by the adoption of the Barrow borer, the invention of a couple of Cornishmen, and the first boring ma- chine that has ever been found practically useful in mining enter- prise in Cornwall. There have been difficulties experienced by Capt. Josiah Thomas and Mr. Loam on the part of the adventurers, and the patentees on behalf of their invention have stuck to their work bravely and overcome them. Dolcoath, therefore, has led the way.

The terms on which the Percussion Drill of the Diamond Rock Boring Company is to be set to work in Carn Brea are set forth fully in a circular issued from the Tehidy Office. The arrangement is between Capt. Teague, on behalf of the adventurers in Carn Brea Mine, and Major Beaumont, on behalf of the Diamond Rock Boring Company, for driving with the percussion drill of the company the 225 fm. level in Carn Brea Mines for six months on the following scale:—For a speed of 3 yards per month, 18*l.* per fathom; for a speed of 4½ yards per month, 23*l.* per fathom; for a speed of 6 yards per month, 27*l.* per fathom; for a speed of 8 yards per month, 30*l.* per month. Major Beaumont, so far as the committee is concerned, is to be limited to a speed of 15 fms. per month, Capt. Teague guar- anteeing to pay for any excess of speed beyond. Assuming, therefore, that a speed of 15 fms. per month be reached, the total amount required would be 2700*l.*, towards which Capt. Teague guarantees the present hand labour price of 18*l.* per fathom, or 1620*l.*, leaving the committee to find 1080*l.*, to which must be added the cost of transit and cost of machinery, not exceeding 200*l.*; total, 1280*l.* The total amount already guaranteed 7·2*l.* The circular concludes with an appeal to the mining community for pecuniary assistance to carry out this experiment, which is intended as a competitive trial with the Barrow drill, and other boring machines on trial in Cornwall and elsewhere. This assistance should be forwarded to Mr. J. G. Bolden, on behalf of Mr. Basset, the Chairman of the Executive Boring Machine Committee. The competition between the Diamond rock borer and the Barrow borer will be watched with great interest by all mine adventurers. The Barrow borer at Dolcoath has already been proved to drive two and a-half times as fast as hand labour, and the patentees have taken a contract to drive the 302 and 314 in that mine at the same price as hand labour, with 10 per cent. pre- mium for driving twice as fast. Major Beaumont's terms for driving twice as fast as by hand labour are 50 per cent. in excess of hand labour.

But Mr. Basset, commenting upon this, has pointed out in a letter addressed to the Western Morning News, which shows how deep is the interest he takes in this subject,

> "That the terms of the Barrow drill are 10 per cent. on present hand labour, at 25*l.* per fathom, which, when known, considerably modifies the statement as it at first appears. But you must allow me to state that this is not a trial for testing the comparative cheapness per fathom of the two machines to a pound or two, but a six months' comparative competitive trial of working results. The committee, with myself, are looking further forward and to larger results than this six months' trial, and at a time of great depression and a great crisis in the mining interests of this county, look to stimulating the energies of practical working men towards what we hope may put a new aspect on Cornish mining, and lead to great results."

This puts the matter in its truest and most important light.

Unless the miners are to be thrown back again upon gunpowder as an explosive, something will have to be done to mitigate the severity of the present laws affecting the transfer of dynamite when nearly all the railway companies refuse to carry it, when nearly all the harbours are closed against it, and when its transmission where permitted is hampered with the most prohibitive restrictions—it is clear that something must be done. There is no doubt that taking it as an explosive, and compared with other explosives, the pre- judice against carrying it is really absurd, and unless there is to be an end altogether of the public transit of explosives indefensible, like all overstrained laws, these restrictions are causing the very evils they are intended to remove. People will have dynamite; if it cannot be carried openly it will be smuggled, and smuggled it is too in anything but small quantities. Our railway and harbour authorities will have to look at this matter from a common sense point of view, not like a set of unreasoning cowards. They have public duties and public responsibilities, which they cannot shake off just at their individual pleasure.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Sept. 14.—Iron and coal masters in South Staffordshire are getting a little disquieted by reason of the making known of difficulties as existing in connection with one or two concerns in this district, as to one of which it had been somewhat confidently hoped that by the arrangements following upon the founding of the new pro- prietary all earlier difficulties had been overcome. The firm im- mediately referred to, which exists close to the Shropshire district, had in its revised form so improved upon its former self as to be able to present quite an encouraging record of its business up to only a year ago, and all would doubtless have gone on well but for the severe pressure to which all such concerns are now being sub- jected. This may in much part be said of other concerns, but it is eminently true of this. They are the claims of debenture holders which are believed to be now finding expression. Events of this class are not at the moment strengthening the quotations of local blast-furnace proprietors, for it is not at present likely that they will tend to a reduction of the output, since in the one case making had recently ceased, and in the other the probabilities are altogether in favour of the furnaces being kept alight. To-day in Birmingham and yesterday in Wolverhampton efforts were nevertheless made pretty generally to follow up the advantage gained last week by the Barrow Company, whose previous sales of pigs were such as to enable a further 2s. 6d. per ton to be quoted, but success was only rare. Generally former prices would be accepted, and 1s. 3d. more per ton was seldom recorded by the makers of local pigs. Best hematite well sustained their last week's position; only little busi- ness was, however, done. Foundry pigs were in fair request at steady current rates.

Finished iron is not in active demand even at first-class concerns, though there, as last week was the case, best bars are selling fairly at full prices in a few instances, and not much under maximum quota- tions in others. Speedy delivery is more than ever a condition of pur- chase, whatever the quality of the product, and a breakage more than ever results in complaints and inconvenience strikingly con- clusive of the hand to mouth purchases which are being made. Medium sheets and medium plates, together with best bars and high- class tube strip, are the kinds in most demand proportionately with the total output of the district. The strike in the chain trade, which has led to the suspended operation of 500 workmen, slightly inter- feres with the business in cable iron, but those products of the mill and forge required by the bedstead makers, by the manufacturers of wrought iron fencing, and the makers of similar iron work in which high class quality is not a necessity, are doing a slightly improved business at low rates.

There is a little more business doing at the collieries in North Staffordshire from which the householders obtain their supplies, but on iron making account, whether pig or finished, the demand is un- improved. Less probably is being done outside the domestic col- lieries than a week ago. There is no falling off in the actual weight of pig-iron being made, though the product is in no better request, and stocks are accumulating somewhat. At the mills and forges the orders are fewer, whether for plates or bars; and there are re- ports of mills being about to be laid off.

Mr. Brown, the miners' former agent for North Staffordshire, has consented to return to the office which he resigned.

VISIT OF MINING ENGINEERS TO THE EARL OF DUDLEY'S PITS.—The members of the South Staffordshire and East Worcestershire Institute of Mining Engineers visited Lord Dudley's celebrated Lye Cross Pits, at Oakham, near Dudley, on Monday. The President of the Institute (Mr. Thomas Latham), who has laid out the pits, which are the finest in South Staffordshire or East Worcestershire, accom- panied the party, and explained to them the experiences gained in sinking the shaft, 14 ft. 6 in. in diameter, and the strata passed through. After passing along some miles of gate roading the party were entertained at luncheon in the men's dining-room, through the liberality of Mr. E. Fisher Smith, Lord Dudley's prin- cipal mine agent. There were about 130 guests present, and among them were Mr. Thomas Parton, F.G.S. (vice-president), Mr. John Hughes, Mr. W. Blakemore, and Mr. W. North (ex-presidents), Mr. W. Spruce, Mr. Addenbrooke, Mr. Brough- hall, Mr. Foley, Mr. Alexander Smith, secretary, &c.—After the usual loyal and patriotic toasts had been given, Mr. Bailey, of Walsall, proposed the toast of the Earl of Dudley, in whose splendid pit they then sat. If all his lordship's works and collieries were laid out like that pit there was no wonder that Lord Dudley was a rich man. There had been a vast amount of money spent on the mine in which they sat, but, after all, it was the most economical, for the pit had to last many years, and the making of a substantial bottom outfit like that was, after all, the wisest plan. There was nothing like it in the district. (Applause.)—Mr. W. Blake- more moved a vote of thanks to Mr. E. F. Smith for his continued liberality in opening the pit to the inspection of the members.—This toast was drunk with the same enthusiasm as the last.—The Vice-President proposed the health of the Presi- dent, who had laid out the pit. He said the whole of the credit of it was due to Mr. Latham, and he wished him long life and prosperity.—The toast was drunk with musical honours.—Mr. Latham, in responding, said he was glad that long weight was ended, for it was wrong that 30 cwts. should be sold to the ton. He was also glad that the law had compelled all engaged in mining to wake up, and do their duty thoroughly. By this they had saved many lives, and the Houses of Lords and Commons had earned the credit of all. (Hear, hear.) With respect to the pit itself, he should like to say that all the dials which had gone down the pit had varied, and it was a matter for consideration. There was an attraction which over-rode all things, and the compass fluctuated differently in each dial. He might say, in answer to a remark of Mr. Parton, that the total cost, including engines, railways, sinkings, and opening out had been less than 22,000*l.* (Loud applause.) —The health of the Vice-President was also proposed, and Mr. Parton very briefly responded.—Mr. Pasfield, the principal engineer on the eastern side of the estate, lucidly explained the engine-power, and showed a valve he had added to give the tender greater power.—The party shortly afterwards returned to Dudley.

TRADE OF THE TYNE AND WEAR.

Sept. 14.—There is no improvement in the general condition of the Coal Trade. The demand for good glass steam and house coals con- tinues, and the prices have hardened a little. In the coke and manu- facturing coal trades the depression appears to increase, and prices are quite unremunerative. The demand for this class of fuel appears to decline, and the coke trade still shows symptoms of decay. A large number of coke ovens and collieries are now laid off in the county of Durham, and unless some change takes place more are likely to follow. No doubt the depressed condition of the coal trade in Durham is owing to the dull state of the finished iron, foundry, and engine-building trades. The monthly account of the Cleveland Ironmasters' Association shows that the total make of pig-iron for the month was 171,393 tons, or 1834 tons more than the make for the previous month, and 5157 tons more than the make for the cor- responding month of last year. The make of pig-iron is, therefore, good, and so far there is little to complain of, but, as observed above, the great falling off appears to be in the finished iron and general manufacturing trades. The account of stocks states that there is an increase of only 2533 tons in makers' stocks and of 5400 in the stocks in warrant stores. If this exactly represents the state of the trade, then the conclusion is evident that the pig-iron trade is in a good state, but this is much doubted by many, who hold that there is some fallacy, and that iron in a considerable quantity is included in the quantities sold which really is only turned over to parties who advance money as accommodation.

The affairs of Thomas Vaughan and Co. are scarcely yet settled. A meeting was held at Darlington on Saturday, attended by gua- rantors and the committee of the unsecured creditors, with a view to an arrangement. It was proposed to appoint Mr. Fletcher and Mr. Blackburn as receivers, and also to nominate a committee of five. This scheme is to be proposed in the Bankruptcy Court on Sept. 21. Proxies are being collected from the unsecured creditors to carry out this proposition. The great difficulty evidently is to reconcile the interests of the secured and unsecured creditors, as it is feared that the expenses will come out of the assets available for the unsecured. It is said the amount of unsecured debts is 170,000*l.*, while the assets which can be divided among them is from 80,000*l.* to 100,000*l.*

The arbitration in the case of the Northumberland miners is pro-

ceeding, and in the case of the Durham miners the award is expected to be given on Saturday, when it is fully anticipated that it will be a large reduction in the rate of wages.

The market at Middlesborough, on Tuesday, was well attended, but the general tone was unsatisfactory, prices being low and business dull. The chief matters which still absorb attention are the failures, meetings in connection with which are fixed to be held during the present month. The losses on some of the concerns to unsecured creditors it is feared will be heavy. As there are above 2,000,000*l.* of liabilities involved in the different concerns where suspension has taken place, a ldamp is necessarily thrown upon trade at the prospect of unfavourable realisations. There is some enquiry for pig-iron, and probably the deliveries will remain pretty good till the end of the shipping season. The prospects for winter, with increasing stocks, are, however, far from hopeful, and there seems no reason to doubt that the number of furnaces will have to be considerably reduced unless a considerable impetus should be given to the manufactured iron trade, of which little present likelihood appears. The Consett Iron Company, Hopkins, Gilkes, and Co., the Darlington Iron Company, and the Moor Works, Stockton, have each received a portion of a North Eastern Railway order, amounting in the total to 7000 tons, but small orders like this are but a very trifling consideration with such extensive works, and unless supported by others will scarcely have any appreciable effect. The prices of finished iron were to day pretty much the same as they have lately been. The rates for pig-iron, though they do not vary much from those of last market, are considerably lower than they were a fortnight ago, as a good deal of iron has been thrown upon the market by the smaller makers. Quotations are—No. 1, 49s.; No. 3, 45s. 6d., No. 4 forge, 41s. 6d., as given by the leading makers, though odd lots are bought for less. The coal and coke trades are very dull.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

Sept. 14.—So far as the iron trade is concerned it is unsatisfactory to again have to state that business during the past week has not improved. Prospects at Tredegar and other places where iron-making establishments exist are very gloomy. At one of the establishments in the Swansea Valley the employers intend to enforce a reduction of wages, which are now at a low ebb throughout the district. Contrasting the iron and steel trades the verdict must undoubtedly be in favour of the former. The proprietors of works are gradually beginning to see that steel making is destined to be of great importance to the district now that Government has publicly recognised the superiority of steel for shipbuilding purposes, and the railway companies are adopting it generally in the construction of new lines. Two local companies have began to stir in the matter—the Ebbw Vale Company intend to increase their steelworks, and the Rhymney Company contemplate the erection of steel making plant. During the month of August last 11,377 tons of iron were cleared from Newport, against 11,942 tons in the previous month; Cardiff, 5895 tons, against 6032 tons; and Swansea, 330 tons, against 404 tons.

The Coal Trade next claims attention, but, unfortunately, there is nothing of a pleasing nature to report: prices are stationary still. House coals are dull. In the Swansea valley several collieries are idle. The shipments of coal from Newport during the last month to foreign ports amounted to 54,738 tons against 32,767 tons in August, 1875; Cardiff, 335,902 tons, against 31,157 tons; Swansea, 63,378 tons, against 52,450 tons; and Llanelly, 5925 tons, against 6925 tons. In last month Newport sent away 74,424 tons coastwise, against 83,770 tons in the same month of last year: Cardiff, 72,959, compared with 94,437 tons; Swansea, 20,847, compared with 29,077 tons; Llanelly, 11,295, compared with 12,641 tons. In August last Cardiff also cleared 14,047 tons of patent fuel, and Swansea 14,280 tons.

The death of Mr. Lionel Brough, a gentleman well known in the district as having held the office of Inspector of Mines for many years, is announced, and the news was received with regret by the many who have had the opportunity of meeting that gentleman. His valuable knowledge of mining operations, to which may be added an extensive acquaintance with chemistry, was frequently brought into requisition in cases of accidents or explosions occurring in collieries, and his explanations, given with so much judgment, frequently tended to clear up the cause of a disaster.

A man named Edgar has been sent to prison for two months, without the option of a fine, for intimidating workmen employed by the Blaenavon Company. Several men have been fined at Tredegar for infringing the colliery rules in the works of the Powell Duffryn Company, New Tredegar, by having in their possession pipes and matches.

It will be remembered that in April last an explosion of dynamite occurred at Cymmer, by which about a dozen persons lost their lives. Major Majendie's report states that, as it appears to him, "there was a general failure of duty and censurable negligence on the part of all concerned." While speaking of dynamite, I may add that two men, sinkers of Blaina, have been read a lesson through the medium of a police-court fine for getting drunk, and leaving unprotected a cart containing dynamite.

The Taff Vale Railway directors have succeeded mainly in filling up the places of their employees who are on strike, and consequently public attention is not now so much attracted to the matter.

THE SCOTCH MINING SHARE MARKET—WEEKLY REPORT AND LIST OF PRICES.

During the past week the market has continued extremely idle. In shares of iron and coal concerns, Nant-y-Glo and Blaina (preferred) have advanced 15s., Benhar, 6s., and Omoa and Cleland 1s. 6d. Monkland (preference) have been more dealt in, and are 7s. 6d. higher, but the ordinary are unaltered. On the other hand, Glasgow Port Washington have declined 4s., Chillington 2s. 6d., and Benhar (new) 1s. 3d. Bolckow, Vaughan, A, is 3*l.* lower, at the ex div. quotations, and Ebbw Vale 1*l.* The dividends of the Staveley Coal and Iron Company are 8*l.* per share on A and C, and 10s. per share on B and D shares, making, with interim dividends, 6*l.* and 1*l.* per share respectively for the year ending June 30 last; carrying forward 59,876*l.* The dividends for the previous year were 1*l.* and 1*l.* 13s. 4d. per share respectively. Andrew Knowles and Sons are at 30s. to 35s prem.; Beverley Iron and Wagon, 15s. dis.; Bilson and Crump, 7½, sellers; Bolckow, Vaughan, B, 33 to 34 ex div.; Bradford Brick and Tile, A, 17; ditto, B, 6; Brynmwr, 8; Chapel House, 60s., sellers; Consett Iron Ore, 11½ prem., ex div.; Charlestown Brick, 9¼; Clee Hill, 1s. 6d.; Ivy House and Northwood, 20s. dis., sellers; John Bagnall and Son, 9½, sellers; Mersey Steel and Iron, par to 20s. prem.; Mid Cannock, 2½, sellers; Newport Abercarn, 90s. to 100s.; North of England Coal and Iron, 8; Park Coal, 29; Pelsall, 7 to 8; Richards and Co., 6 s. to 7os.; Rymney Iron, 22 to 24; Sheepbridge Coal and Iron, 20s. to 10s. dis., ex div.; ditto (new), 9¼ to 10½, ex div.; Sandwell Park, 23¼ to 24½; Silkstone and Dodworth, 8 to 6 dis.; South Wales Smelting and Colliery, 5¼; Spon Lane, 50s. dis.; Staveley, A, 28 to 29 prem.; ditto, B, 4½ to 5 prem.; ditto, C, 89 to 90; and ditto, D, 14½ to 15, all ex div.; New Sharlston Collieries (preference) about 80s.

In shares of foreign copper concerns Panulcillo have improved 5s., but Tharsis have declined 3s. 9d.; ditto (new), 1s. 3d.; and Huntington, 6d. Some business has been done in Cape at 30s. advance on last week's nominal price. New Quebrada are at 70s., and Yorke Peninsula unaltered. Ic shares of home mines Glasgow Caradons are 1s 6d. down, but the new shares are 9d. up. The next sale, 255 tons, on Sept. 21, will compare with 260, 255, and 255 in the years 1875, 1874, and 1873 respectively. Aberdaunant are at 9s. 6d.; Bedford United, 9s.; Cook's Kitchen, 5s. to 60s.; Glyn, 60s. to 65s.; Great Laxey, 18 to 18½; Gunnisake (Glitters), 50s.; Killifreth, 10s. to 15s.; Ladywell, 25s. to 27s. 6d.; Pennerley, 22s. 6d. to 27s. 6d.; Penstruthal, 11s. to 13s.; Plynlimmon, 6s., buyers; Prince of Wales, 4s. to 5s.; Tankerville, 10½ to 10¾; West Basset, 75s. to 85s.; West Frances, 80s. to 90s.; West Poldice, 10 to 12 West Tankerville, 30s.; ditto (preference), 40s. to 50s.; South Condurrow, 80s. to 85s.

In shares of gold and silver mines Richmonds have improved 10s, on a circular issued by the company; the week's run is again $30,000. Others have attracted little attention, excepting Pestarena United, which are firmer. Australasian Mines are at 12s. 6d. Cedar Creek, 10s. to 15s.; Chontales, 3s. 9d. to 6s. 3d.; Don Pedro, 10s. 3d. to 12s. 6d.; Emma, 12s. 6d.; Exchequer, 40s. to 45s.; Flagstaff, 30s.; Gold Run, 10s.; I.X.L., 17s. 6d. to 20s.; Javall, 8s. to 10s.; Malabar, 4s. to 6s.; Malpaso, 12s. 6d. to 15s.; Pestarena United, 5s. 6d.; ditto (preference), 25s.; Port Phillip, 5s. to 10s.; Rica, 1s. 6d., buyers; St. John del Rey, 340 to 360; Sweetland Creek, 3s. 9d. to 6s. 3d.; Thornhill Reef (preference), 10s.; United Mexican, 50s.; Western Andes, 5. In shares of oil concerns Dalmenys and Uphalls are each 10s., and Young's Paraffin 7s. 6d.—all higher. Price's Patent Candle shares remain at 11 to 12; the meeting is to be held on Oct. 5. In shares of miscellaneous companies prices are unaltered. Shares of chemical companies continue the chief market; British Agricultural at 10s. to 20s.; Langdale's about 90s.; Lawes, 7*l.* 13s. 9d.; ditto (preference), 10; and Newcastle Chemical, 5¼ dis. Hopkins, Gilkes, and Co., are at 9 ¼ dis.; Milner's Safe, 10¾ to 11; and Palmer's Shipbuilding and Iron, B, 19 to 17 dis. Details of the several days' business follow:—

On THURSDAY last the market quiet. Benhar (7*l.* paid), 6*l.* 10s to 6*l.* 13s. 9d. Bolckow, Vaughan, A, 42 to 44 Chapel House, 62s. 6d. to 65s. Dalmeny, 8½ to 9. Ebbw Vale done at 10, closing 9¾ to 10. Glyn, 5*l.* 7s. 6d. to 6*l.* 2s. 6d. Langdale's Chemical done at 91s. 3d., closing 90s. to 92s. 6d. Lawes Chemical, 7¼, sellers Linares, 6, buyers. Malpaso, 12s. to 14s. Newcastle Chemical, 5¼ dis., buyers. Omoa and Cleland, 27s. 6d. to 30s. Pestarena United, 4s. 6d. to 5s. 6d. Plynlimmon, 6s., buyers. Richmond opened at 8¾, and fell to 8½, closing about this price. Tharsis done at 20½, closing about 20¾; new shares, 14½ to 13¾. Uphall done from 10½ to 11¾, closing 11½ to 11¼. West Tankerville about 30s. Young's Paraffin opened at 13½, improved to 13¾, and after being done at 13⅝ recovered to 13. 13s. 9d., closing 13⅝ to 13¾.

On FRIDAY little doing. Aberdaunant, 7s. 6d. to 10s. Bedford United, 7s. 6d. to 10s. Benhar done at 9⅞, closing 9¾ to 10; new shares (7*l.* paid) done at 6*l.* 13s. 9d. Bilson and Crump, 8½, sellers. Bolckow, Vaughan, A, 44 to 46. Ebbw Vale done at 10, closing about that price. Glasgow Caradon, 27s. to 27s 6d. Langdale's Chemical, 90s. to 92s. 6d. Lawes Chemical, 7½ to 7¾. Nant-y-Glo and Blaina (preferred), 20½ to 21½. Omoa and Cleland, 30s. to 35s. Pestarena United, 4s. 6d. to 5s. 6d. Plynlimmon, 6s., buyers. Richmond done at 9, closing 8¾ to 9. Tharsis done at 20½ and 20, closing 19*l.* 18s. 9d. to 20*l.*; new shares done at 14, closing 13¾ to 14½. Uphall opened at 11¾, declined to 10¾ and 10⅞, closing 10¾ to 11¾. Young's Paraffin done from 13¾ to 13½, closing 13⅝ to 13¾.

On SATURDAY very little doing. Cook's Kitchen, 50s. to 60s. Ebbw Vale done at 9½, closing 9 to 9½. Glasgow Caradon done at 27s., closing 27s. to 27s. 6d. Glasgow Port Washington done at 46s., closing 46s. to 50s. Killifreth 10s. to 15s. Langdale's Chemical done at 91s. 3d., closing 90s., sellers. Lawes Chemical, 7½ to 7¾. Monkland (preference) 92s. 6d. to 97s. 6d. Pelsall Coal, 7 to 8. Pestarena United 5s. to 6s. Richmond 8½ to 9. South Crofty, 10, sellers. South Condurrow, 80s. to 85s. Tharsis done at 20, closing 19*l.* 18s. 9d. to 20*l.* Upsall, 10⅝ to 11. West Basset, 75s. to 85s. West Frances, 80s. to 90s. West Poldice, 10 to 12. Young's Paraffin done at 13¾ and 13¾, closing at these prices.

On MONDAY (being contango day), as usual, little doing. Aberdaunant, 9s. 6d., sellers. Bedford United, 9s., sellers. Benhar done at 10s., closing 9¾ to 10. Bilson and Crump, 7½ to 8½. Bolckow, Vaughan, A, done at 42, closing 41 to 43. Dalmeny done at 8¾. Ebbw Vale done at 9½, closing 9½ to 9¾. Glasgow Caradon done at 28s., closing 28s. to 29s. Langdale's Chemical about 90s. Monkland (preferred) done at 97s. 6d., 100s., and 99s. 6d., closing 99s. to 99s. Omoa and Cleland done at 28s. 6d., closing 28s. 6d. to 29s. 6d. Pestarena United, 5s. to 5s. 6d. Richmond, 9½ to 9¾. Tharsis done at 20, closing 19*l.* 18s. 9d. to 20*l.* Young's Paraffin done at 13⅞, closing 13*l.* 18s. 9d. to 14*l.* The following were the rates of continuation current to-day.—Contangos: 1d. on Canadian Copper Pyrites, 1d. on Emma, ½d. on Glasgow Caradon, 1d. on Port Washington, 1d. on Huntington, 2½d. on Marbella, and 1s. on Young's Paraffin.—Even: Monkland Iron.—Backwardations: 6d. on Omoa and Cleland, 5½d. on Richmond, and 9d. on Tharsis. A comparison of the making-up prices fixed to-day with those of the last occasion, shows the following variations:—Marbella have improved 3s., Omoa and Cleland, 1s.; but Richmond have fallen 15s., Benhar and Glasgow Port Washington each 4s., and Young's Paraffin 2s. 6d., Canadian Copper Pyrites ditto (new), Emma and Huntington are unaltered. Glasgow Caradon at 27s. ex. div., against 29s. 6d. cum div., is 1s. down. Tharsis are unaltered, but new shares are 2s. 6d. better. Monkland (preference) also 7s. 6d. higher, but ordinary shares 1s. down.

On TUESDAY the next account opened for settlement Sept. 29. Tuesday, Sept. 26, will be contango-day; market still quiet. Benhar, 9¾ to 10. Bilson and Crump, 7½, sellers. Bolckow, Vaughan, A shares done at 42, closing 42 to 42½. Chapel House, 60s., sellers. Ebbw Vale done at 9 and 9¼, closing 9 to 9⅛. Glasgow Caradon done at 28s. 6d., closing 28s. to 28s. 6d. Gold Run, 10s., sellers. I.X.L., 17s. 6d. to 20s. Lawes Chemical, 7*l.* 13s. 9d., sellers. Newport Abercarn, 90s. to 100s. Omoa and Cleland done at 30s. Pestarena United, 5s. to 5s. 6d. Richmond done at 9½, closing 9¾ to 9½. Sweetland Creek, 3s. 9d. to 6s. 3d. Tharsis done at 20, closing 19*l.* 18s. 9d. to 20*l.* 1s. 3d.; new shares, 13¾ to 14. Uphall, 10½ to 11. Young's Paraffin done from 14*l.* to 13*l.* 18s. 3d., closing 13¾ to 13⅞.

On WEDNESDAY little doing. Aberdaunant done at 9s. 6d. Benhar, 9¼ to 10. Bolckow, Vaughan, A, 41 to 43, ex div. Ebbw Vale done at 9¼, closing 9 to 9¼. Glasgow Caradon done at 28s. and 27s., closing 26s. 6d. to 27s. 6d.; new shares, 19s. 9d. to 20s. 3d. Huntington, 17s. 6d. to 18s. 6d. Javall, 8s. to 10s. Langdale's Chemical about 90s. Lawes Chemical, 7*l.* 13s. 9d., sellers. Malabar, 4s. to 6s. Malpaso, 12s. 6d. to 15s. Monkland (preference), 97s. 6d. to 100s. Pestarena United, 5s. to 6s. 3d. Richmond done at 9¼ and 9½, closing 9¼ to 9⅝. Tharsis done at 19⅞, 20, and 19*l.* 18s. 9d., closing 19⅞ to 20; new shares, 13¾ to 14. Uphall done at 10¾, closing 10¼ to 10¾. Young's Paraffin done from 13⅝ to 13⅞, closing 13*l.* 16s. 3d. to 13s. 17s. 6d.

Subjoined are this week's quotations, &c., of mining and metal shares quoted on the Scotch Stock Exchanges:—

Capital. Per share.	Paid up.	Dividends. Rate per cent. per annum. Previous.	Last.	Description of shares.	Last price.
				COAL, IRON, STEEL.	
£ 0	£6	£10	£ 8½	Arniston Coal (Limited)	7¼
10	10	9	6	Benhar Coal (Limited)	10
10	8	9	6	Ditto	7*l.* 13s 9d
100	40	12½	7½†	Bolckow, Vaughan, and Co. (Lim,)	A. 42
10	10	10	10	Cairntable Gas Coal (Limited)	9
10	10	5	nil	Chillington Iron (Limited)	82s. 6 d.
32	29	7	1¼†	Ebbw Vale Steel, Iron, and Coal (Lim.)	9½
10	5	nil	nil	Fife Coal (Limited)	70s.
10	10	—	—	Glasgow Port Washington Iron & Coal (L)	46s.
10	10	—	—	Ditto Prepaid	50s.
10	10	—	—	Lochore and Capledrae (Limited)	6¼
10	10	nil	nil	Marbella Iron Ore (Limited)	68s. 6d.
10	10	nil	nil	Monkland Iron and Coal (Limited)	47s.
10	10	7	7	Ditto Guaranteed Preference	87s. 6d.
100	100	nil	nil	Nant-y-Glo & Blaina Ironworks pref. (L)	21
6	5	15	nil	Omoa and Cleland Iron and Coal (Lim.)	30s.
1	1	12½	15	Scottish Australian Mining (Limited)	35s.
1	8s.	12½	15	Ditto New	7s. 6d.
50	50	10	5	Shotts Iron	53
10	10	10	5	Ditto New, issued at 2½ prem.	9¼
				COPPER, SULPHUR, TIN.	
4	4	—	—	Canadian Copper Pyrites (Limited)	18s.
4	3	—	—	Ditto (£3 paid)	5s.
10	7	20s ‖	20s ‖	Cape Copper (Limited)	39
2	2	—	—	Dunsley Wheal Phœnix Tin (Limited)	9d.
1	1	12½	15	Glasgow Caradon Copper Mining (Lim.)	27s.
1	15s.	12½	13½	Ditto New	19s. 9d.
10	9	—	nil.	Huntington Copper and Sulphur (Lim.	18s. 6d.
25s.	23s.	—	—	Kapunda Mining (Limited)	2d.
4	4	—	—	Panulcillo Copper (Limited)	40s.
10	10	6†	6†	Rio Tinto (Limited)	95s.
20	20	—	—	Di to, 7 per cent. Mortgage Bonds	14
100	100	—	—	Do.. 5 p.ct. Mor. Deb. (Sp.Con. Bds.)	60
10	10	nil	nil	Russian Copper (Limited)	45s.
10	10	25	22½	Tharsis Copper and Sulphur (Limited)	19/18-9d
10	7	25	23½	Ditto New	14
1	1	—	—	Yorke Peninsula Mining (Limited)	8s.
1	1	—	—	Ditto, 15 per cent. Guaranteed Pref.	21s. 3d
				GOLD, SILVER.	
1	1	5	5	Australian Mines Investment (Limited)	8s. 9d.
20	20	—	—	Emma Silver Mining (Limited)	12s. 6d.
10	10	—	—	Flagstaff Silver Mining (Limited)	30s.
5	5	—	—	Last Chance Silver Mining (Limited)	10s.
5	5	—	35	Richmond Mining (Limited)	9½
				OIL.	
10	7	5	5	Dalmeny Oil (Limited)	8¾
10	10	—	2½	Uphall Mineral Oil (Limited)	10¾
10	8½	5	9	Young's Paraffin Light & Mineral Oil (L)	13⅞
				MISCELLANEOUS.	
50	25	16	16	London and Glasgow Engineering & Iron Shipbuilding (Limited)	20
20	14½	—	—	Peruvian Nitrate (Limited)	12
10	10	8	5	Scottish Wagon (Limited)	10¾
10	4	8	5	Ditto New	85s.

† Interim. ‖ Per share.

Last day for this account Sept. 26; settling day, Sept. 29.

NOTE.—The above lists of mines and auxiliary associations is as full as can be ascertained, Scotch companies only being inserted, or those in which Scotch investors are interested. In the event of any being omitted, and parties desiring a quotation for them and such information as can be ascertained from time to time to be inserted in these lists, they will be good enough to communicate the name of the company, with any other particulars as full as possible.

J. GRANT MACLEAN, Stock and Share Broker.

Post Office Buildings, Stirling, Sept. 14.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

Sept. 14.—Business at the lead and other mines in Derbyshire has undergone but little change during the week. In the lead districts matters have been going along smoothly, but still at several places there does not appear to be anything like the return for the money expended that was anticipated. The collieries have been doing moderately well, all things considered, and the London trade from the leading collieries has been well kept up. From Clay Cross an increased tonnage has been sent during the past month to London, as well as from Grassmoor, Staveley, and other places, but there does not appear to have been any advance in price at the pits—unless, indeed, in some exceptional instances. London merchants, however, maintain the advance they made a couple of weeks ago of 1s. per ton, although more coal could be sent than is required, for many collieries are still on short time, so that the increase in price cannot be attributed to any scarcity of coal. The notices of the Shirland men expire this week, and the question is whether the difficulties can be bridged over or not. A meeting is about to be held for the purpose of considering whether the property cannot be saved. Seeing that the Miners' Association have paid more than 30,000*l.* towards the cost of purchase and the working expenses, we cannot believe that the debenture-holders, who it may be assumed are the vendors, would a low that money to be entirely lost. There was a great deal too much money paid for the concern, and if instead of giving 70,000*l.* something like 30,000*l.* had been paid then there would have been some chance for the colliery being worked at a profit. The Sheffield trades have been quiet, with the exception of the mills, malleable works, and one or two minor branches.

The Doncaster races, however, has drawn vast numbers from the town, for despite the state of trade the Sheffielder, pure and simple, will find money to see the Leger and the Cup run for, and find means for making a few bets. The collieries in the same district have also been denuded of a considerable number of their hands from a like cause, and to see the continuous streams of long trains passing along the Midland and Manchester and Sheffield lines, through the heart of the South Yorkshire coal field, an ordinary observer could come to no other conclusion than that the working classes were in a high state of prosperity. The races have also affected the coal trade, for the Great Northern puts all its power in motion for the conveyance of passengers to Doncaster as being the most profitable. The coal can wait, for another week but the races cannot, and that is the policy that is adopted. In the neighbourhood of Barnsley, on Wednesday, very little business was done, although some of the foundries are much busier than they have been. Some large orders have been given out for builders' castings, for houses are now being erected on an extensive scale in most of our mining and manufacturing districts, there having been a great dearth of them, which has seriously inconvenienced working men and their families, and overcrowding small houses. At the Wharncliffe Woodmoor Colliery, near Barnsley, the men are still out, and there does not appear any likelihood of their resuming work. The colliery, which belongs to a limited company, has now been standing for some months, so that whilst it is said no dividend has been paid as yet, none is likely to be forthcoming, whilst expenses continue to go on.

We have been favoured by Mr. W. Rowley, the secretary, with a copy of the Calendar of the Yorkshire College of Science for the third session, 1876-7. Having favourably noticed the establishment of the College, and the benefit likely to accrue to it from those who intended following the professions of mining or civil and mechanical engineering, we are now glad to record its undoubted success. The appeal made for funds was well responded to, for we find that there are no less than 70 life governors, who subscribed 250*l.* each and upwards. With respect to geology and mining, presided over by a professor recently of the Geological Survey, and who has a thorough knowledge in particular of the Yorkshire coal field, students will have every opportunity of being well grounded in all that relates to those important branches. In addition to the ordinary class work, there are weekly excursions into the country for geological knowledge. They will thus be able to study the rocks *in situ*, and notice the changes in physical geography which have happened during past periods of the earth's history. As to mining, a knowledge will be imparted as to the different methods of boring and winning coal, the various methods of working, the mode of detecting and proving faults, and the probable extension of the coal measures below newer strata. The want of an educational establishment where our youth could be theoretically and practically instructed in all matters in relation to mining, coal or metallurgical, had long been felt in Yorkshire, and we are glad to find that it no longer exists, and that in the future the management of the mines in the vast county of York will fall into the hands of those who have been educated at the college at Leeds. Civil and mechanical engineering is presided over by Prof. G. P. Armstrong, who will give lectures, pointing out the fundamental relationship as regards motion that exist among the elemental parts of machines; to indicate some of the objects sought to be attained by machinery, and the means usually employed by mechanicians to attain them. Inducements to study are held out to students in the shape of scholarships, one founded by the Duke of Devonshire, being of the value of 50*l.*, and will be awarded yearly for investigations made in candidates in any branch of natural science taught in the college. Students will also be entitled to compete for the Whitworth scholarships, of which there are six of 100*l.* a-year each, and tenable for three years. Each holder of a scholarship is required to attend at the end of every year an examination in theory and practice. On the result of these examinations payments in money, varying from 20*l.* to 30*l.* each, will be made, so that it will be possible for the best of the scholars at the end of his period of tenure of scholarship to have obtained 80*l.*, inclusive of the annual payments of 100*l.* each. From what we have stated it will be seen that the Yorkshire College of Science holds out exceptional advantages to those who desire to become mining, mechanical, or civil engineers.

THE ADVANCE ON HEMATITES, AND BRISKNESS IN THE STEEL TRADE.—This week's markets have firmly maintained the 2s. 6d. advance on hematites. The increased price, coupled with the prospects of the trade, have stimulated buyers, and the wise are placing their orders. Offers have been made for large orders, and contracts at from 1s. to 1s. 6d. under current rates, but in all cases they have been refused and the full advance has been obtained for all orders booked. Best iron, hematities, and Bessemer are in fair demand. Common irons, except some plates, are dull. Ironstone was plentiful on the markets, excepting British manganiferous hematites, which were scarce. The Sheffield Steelworks are fully employed. Armour and ship plates are in demand for the Admiralty, foreign Governments, and the shipyards of the Northern rivers. The 75,000 tons of steel rails for the Great Western Railway Company have, we believe, gone to Wales. The Ebbw Vale Company are now freely importing manganiferous ore for this and other contracts. The Rhymney Ironworks are likely to revolutionise their establishment, erect converters and steel rolling plant. Several good orders are about ready for giving out. The Scotch ironmasters have lighted up two other blast-furnaces; this makes three more than they had at work last year. In the face of the most depressing reports these "signs of the times" are highly suggestive. The common and inferior iron trade is as bad as need be, and as that forms the large bulk of the trade there is distress, but high-class iron and Bessemer steel are making rapid strides, and commanding the market. The one thing wanting at the present hour is British hematites combined with manganese, to prevent the uncertainty of importing from other countries, and to render us independent of them.

COAL MINES REGULATION ACT, 1872.

EXAMINATION FOR MANAGERS' CERTIFICATES OF COMPETENCY.

DISTRICT UNDER THE CHARGE OF THOMAS EVANS, ESQ., H.M. INSPECTOR OF MINES.

PERSONS DESIROUS of being EXAMINED in this District for MANAGERS' CERTIFICATES OF COMPETENCY, under the above-named Act, should at once communicate with the Secretary to the Board of the above-mentioned District, at the following address, The Wardwick, Derby.

By order of the Board,
WILLIAM SAUNDERS, Secretary.

N.B.—Persons who do not reside within the district are equally eligible for examination with those who do.

IMPORTANT DISCOVERY.

THE DRYBURNSIDE SILVER-LEAD MINING COMPANY (LIMITED).

Capital £5000, in 100 Shares of £50 each, fully paid-up.

TEMPORARY OFFICES,
26, NEW BROAD STREET, E.C.

Full particulars of this very valuable property can be obtained on application to the Directors, or Secretary, at their offices, 26, New Broad-street, E.C.; or Mr. T. SPARGO, Mining Engineer, 85, Gracechurch-street, E.C.

RICHMOND CONSOLIDATED MINING COMPANY (LIMITED).

NOTICE TO DEBENTURE HOLDERS.

The Directors hereby give notice that the Coupons due, and payable on the 25th September instant, WILL BE PAID on and after that day at the Company's Bankers, the Union Bank of London, Princes-street, E.C.

By order of the Board,
THOS. WESTBURY HALL, Secretary.

44, Coleman-street, E.C., September 12th, 1876.

RICHMOND CONSOLIDATED MINING COMPANY (LIMITED).

44, Coleman street, London, E.C., 4th September, 1876.

TO THE SHAREHOLDERS OF THE RICHMOND CONSOLIDATED MINING COMPANY (LIMITED).

The directors of the Richmond Consolidated Mining Company (Limited) beg to inform the shareholders that it has come to their knowledge that an attempt is being made by some outside brokers and others, by the circulation of unfounded rumours and false reports. Already these speculators have succeeded, to some extent in their object—the shares having been forced down in the market on the 7th inst. by an affected confidential intimation that a pamphlet, containing damaging statements, was being prepared by a Mr. Lythgoe, and would shortly appear.

This pamphlet, it appears, was circulated on the Stock Exchange yesterday, and has been forwarded gratuitously to some of the shareholders. Up to the present time, however, it has been scrupulously withheld from the directors and officers of the company. The title page contains the announcement calculated to induce the belief that the pamphlet is printed and published with authority emanating from America—viz., that it is so printed and published by the "American Agency, Suffolk 6, Great Winchester street, E.C."

On applying to this address yesterday to obtain a copy of the pamphlet for the directors, their official was informed "that nothing had been seen there for the last four months of anyone belonging to the so-called agency, and that every hour an execution for rent was expected to be levied." So much for the printers and publishers.

The first portion of the pamphlet bears the name of "G. McHenry," and the second portion, which is in the form of a report obtained by him, appears to be from Mr. J. P. Lythgoe. Neither of these persons are, or ever have been, shareholders in the company. The objects of the pamphlet are transparent, and are firstly to depreciate the value of the property of the Richmond Consolidated Mining Company; and, secondly, to hold up to public admiration the conduct of the directors of the Eberhardt and Aurora Mining Company; in doing this the concoctors of the pamphlet have not hesitated to have recourse to unscrupulous misrepresentations and unjust suppression of facts.

The directors propose promptly to answer such of the statements as may appear material, and deserving of refutation—meanwhile, they feel it to be their duty to warn the shareholders at the earliest moment not to be induced to submit to loss by placing confidence in such a publication, doubtless, as has been too much the practice, speculators and their coadjutors are attempting to sell shares which they do not possess, in the hope that before the time comes for the delivery they will have succeeded in inducing timid holders to sell their shares injudiciously, and to confer a pecuniary advantage upon the persons palpably scheming to obtain them at the expense of such shareholders.

The time selected by these persons for their operations is most inopportune; never was the mine in so good a condition, or the prospects of the shareholders better; there is at least three years ore in sight, mostly of good quality—the furnaces and refinery are doing good and profitable work—the output for the month of August just ended is $272,000, or £54,000 sterling, all produced (with the exception of about £2560) from ore from the Richmond Mines alone. The very last information the directors have received abundantly justifies them in stating that the profits for the month of August last is very little short of £20,000.

For the moment the directors trust the foregoing will be sufficient warning to the shareholders.

By order of the Board,
THOS. WESTBURY HALL, Secretary.

GLASGOW AND THE HIGHLANDS.

ROYAL ROUTE, VIA CRINAN AND CALEDONIAN CANALS by Royal Mail Steamer, IONA, from GLASGOW, daily at Seven A.M. from GREENOCK at Nine A.M., conveying passengers for the NORTH and WEST HIGHLANDS.

See Bill, with Map and Tourist Fares, free, at Messrs. CHATTO and WINDUS, Publishers, 74, Piccadilly, London; or by post from DAVID HUTCHISON and Co., 119, Hope street, Glasgow.

MESSRS. KEENE AND LAMBERT, STOCK AND SHARE BROKERS, METROPOLITAN BUILDINGS, 63, QUEEN VICTORIA STREET, E.C. Bankers: London and Westminster Bank, Lothbury.

MR. W. TREGELLAS, 122 BISHOPSGATE STREET WITHIN, E.C., Deals in all descriptions of Stocks and Shares at close market price.

ROYAL SCHOOL OF MINES.

ROYAL SCHOOL OF MINES.
DEPARTMENT OF SCIENCE AND ART.

During the TWENTY-SIXTH SESSION, 1876-77, which will commence on the 2nd of October, the following COURSES of LECTURES and PRACTICAL DEMONSTRATIONS will be given:—

I.—CHEMISTRY	By E. FRANKLAND, Ph.D., F.R.S.
II.—METALLURGY	By JOHN PERCY, M.D., F.R.S.
III.—NATURAL HISTORY	By T. H. HUXLEY, LL.D., F.R.S.
IV.—MINERALOGY	By WARINGTON W. SMYTH, M.A., F.R.S.—CHAIRMAN.
V.—MINING	By JOHN W. JUDD.
VI.—GEOLOGY	By T. M. GOODEVE, M.A.
VII.—APPLIED MECHANICS	By FRED. GUTHRIE, Ph.D., F.R.S.
VIII.—PHYSICS	By Rev. J. H. EDGAR, M.A.
IX.—MECHANICAL DRAWING	

The Lecture Fees for Students desirous of becoming Associates are £30 in one sum, on entrance, or two annual payments of £20, exclusive of the Laboratories. Tickets to separate Courses of Lectures are issued at £3 and £4 each.
Officers in the Queen's Service, Her Majesty's Consuls, Acting Mining Agents and Managers, may obtain Tickets at reduced prices.
Science Teachers are also admitted to the Lectures at reduced fees.
For a prospectus, and information, apply to the Registrar, Royal School of Mines, Jermyn-street, London, S.W. TRENHAM REEKS, Registrar.

BRISTOL MINING SCHOOL.

BRISTOL MINING SCHOOL.
(Established 1856.)

BOARD OF GOVERNORS—THE COLSTON TRUSTEES.

The NEXT SESSION COMMENCES on the 2nd of OCTOBER, 1876.
The full course of instruction extends over a period of two years, but students are received who may desire to terminate their studies at the end of their first session.
The work of the School will be found to afford an effective preparation for the Managers' Certificate.
One day per week is spent in the Field or Mine, and considerable time is devoted to the plotting of Surveys and the Drawing and Study of Mine Machinery.
The Laboratory is also open daily as a School of Chemistry for the instruction of the general public in the theory and practice of Chemical Analysis and Assaying.
There is in the same Institution a School of Applied Science for Boys, which forms a suitable preparation for those whom it is intended to place in the Mining School or Laboratory.
For prospectuses and any further information, apply to the Registrar, Mr. WM. BURGE, Merchant's Hall, Bristol, who will enter pupils and receive fees.
Mr. BARGE will also be able to give information as to lodgings.

ROYAL COLLEGE OF SCIENCE FOR IRELAND.

ROYAL COLLEGE OF SCIENCE FOR IRELAND,
STEPHEN'S GREEN, DUBLIN.

SCIENTIFIC AND TECHNICAL EDUCATION.

This College supplies a complete COURSE OF INSTRUCTION IN SCIENCE, applicable to the Industrial Arts, especially those which may be classed broadly under the heads of CHEMICAL MANUFACTURES, MINING, ENGINEERING, and AGRICULTURE.
A Diploma of Associate of the College is granted at the end of the Three Years' course.
There are Four Royal Scholarships of the value of £50 each yearly, with free education, including Laboratory Instruction, tenable for two years. Two become vacant each year. They are given to Students who have been a year in the College.
The Fees are £2 for each Course, or £10 for all the Courses of each year, with exception of Laboratory Practice.

CHEMISTRY (THEORETICAL AND PRACTICAL), METALLURGY, &c.—Professor GALLOWAY, F.C.S.
MATHEMATICS, MECHANICS, AND MECHANISM.—Prof. HENNESSEY, F.R.S.
DESCRIPTIVE GEOMETRY, DRAWING, ENGINEERING, AND SURVEYING.—Prof. DIGGOT, C.E., M.R.I.A.
EXPERIMENTAL PHYSICS (THEORETICAL AND PRACTICAL).—Prof. BARRETT, B.A.S.E., F.C.S.
MINING AND MINERALOGY.—Prof. O'REILLY, C.E., M.R.I.A.
AGRICULTURE.—Prof. DAVY, M.D., M.R.I.A.
BOTANY.—Prof. M'NAB, M.D.
ZOOLOGY.—Prof. LEITH ADAMS, M.B., F.R.S.
GEOLOGY.—Prof. HULL, M.A., F.R.S.
PALÆONTOLOGY.—Mr. BAILY, F.G.S.

The Chemical and Physical Laboratories are open daily for Practical Instruction.
The SESSION COMMENCES on MONDAY, October 2nd.
Programmes may be obtained on application to the Secretary, Royal College of Science, Stephen's Green, Dublin.
FREDERICK J. SIDNEY, LL.D., Secretary.

SCHOOL OF ENGINEERING AND PRACTICAL SURVEYING.

A THOROUGH COURSE OF INSTRUCTION given in the above subjects, embracing also PRACTICAL MATHEMATICS and MECHANICS. LECTURES given in GEOLOGY, MINERALOGY, CHEMISTRY, &c., by eminent men. Resident or non resident pupils received.
High class references and terms to be had on application.
Address, "C.E.," Stoneley House, Howard-road, South Norwood, London, S.E.

EAST TRESAVEAN COPPER MINE,

In the parish of GWENNAP, CORNWALL.

Capital, £10,000; in 5000 (£2) shares.

5s. per share on application, and 2s. 6d. per share on allotment.
The balance (if required) in calls not exceeding 2s. 6d. per share, at intervals of not less than three months.
Appointment of directors to be left for the decision of the shareholders at their first meeting.

MANAGER AND PURSER.
Mr. CHARLES BAWDEN, Poldice House, St. Day, Scorrier, Cornwall.

BANKERS.
Messrs. TWEEDY, WILLIAMS, AND CO., Redruth, Cornwall.
Messrs. GLYN, MILLS, AND CO., London.

The object of this company is to open out the celebrated Tresaveau Mine lode, in a new property of which grants have been obtained at the low dues of 1-20th. It is in close proximity to mines that have been immensely productive and profitable, lying on the line of continuation (eastward) of the celebrated Tresavean Mine, which no longer than 40 years back figured as one of the greatest dividend-paying mines in Cornwall. In the year 1833 the shareholders received in dividends £2,000 the shares (100th) after advanced from £10 to £2000 each. The mine continued paying highly remunerative dividends for many years, amounting in the aggregate to half-a-million sterling.
The East Tresavean grant is about 400 fms. from east to west on the course of the lodes, and 200 fms. in width, affording scope for opening out a deep and extensive mine. The back (surface outcrop) of one of the lodes is to be seen at about the centre of the grant, shews copper and gossan, and at no greater depth than 10 fms. below the surface, it being intersected by the well-known important great county cross-course to which is not a little to be attributed the immense accumulations of copper ore met with in Great Consols United and Clifford Mines; which mines for 40 years continued to produce enormous quantities of copper ore, and paid very large dividends. Moreover, an elvan course of correspondingly crystallised character to the one in connection with the great body of ore in Tresavean and companies the East Tresavean lode spoken of.
As justified by the important facts stated, more particularly the similarity of the main superstructural characteristic conditions of the lode in question to the lodes of some of the most abundantly productive mines of the district (in the same formation as this grant is in), it is to be confidently relied on that comparatively little depth of development is required to ensure the realisation of a copper mine of very great value in East Tresavean. This opinion is justified by analogy, which practically scientific mining authorities will ever attach great importance, having proved it to be the safest guide in forming their opinions of the inherent value of mining properties.
It is intended to have a 40-in. diameter cylinder steam-engine for this mine to secure its effectual development—say, in the first place, to a depth of 60 fms., at which several of the greatest mines of Gwennap commenced being ore producing, growing more and more productive in depth, and paying larger profits than any mines in the other districts of Cornwall. Indeed the Gwennap copper mines have realised altogether such astounding profits as have gained for them a wide-world celebrity, it being well known that many of the leading Cornish families are indebted to them for their influential positions and wealth. The probabilities are in favour of East Tresavean proving such a rich mine as will revive the remembrance of the brilliant era of Gwennap copper mining of former days, there being many mines in the parish that have profited hundreds of thousands of pounds.
It is only intended by the amount of capital nominated to fix the maximum liability of shareholders, not meaning it to be understood that anything like so much will be required to open out and establish East Tresavean as a permanently paying dividend-paying mine, which it is confidently relied on will not necessitate a larger expenditure than £6000, if so much, paying for all engine-power, mechanical means and appliances, and indeed everything required, thus giving a rich mine for comparatively little money.
The shareholders will have the full benefit of the capital subscribed, there being no claim made for promotion money or free shares; the object is to offer and open a good mine on the principle of equitably advantageous co operation, the cost of leases, and out-of-pocket expenses consequent on the acquirement of the grants being, of course, charged to the company, one-half of the capital will be privately subscribed, leaving only 2500 shares to be issued, which will be allotted according to priority of application. Shares to be applied for by letter, remitting the first instalment of 5s. per share, either to the manager or banker of the company. In the event of no allotment amounts remitted will be returned in full.

MESSRS. HARLAND AND CO., STOCK AND SHARE DEALERS, 235 and 236, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.
Bankers: London and County Bank

CAPTAIN ABSALOM FRANCIS
MINING AGENT, ENGINEER, AND SURVEYOR
GOGINAN, ABERYSTWITH,

THE TREVARRACK MINING COMPANY (LIMITED).

IN LIQUIDATION.

CORNWALL, in the parish of LELANT, near HAYLE, between Truro and Penzance.

MESSRS. COOPER AND GOULDING WILL SELL, BY AUCTION, by order of the Liquidator, at the TREVARRACK MINE, LELANT, on Monday, October 9th, at Eleven for Twelve precisely, the WHOLE of the VALUABLE

PLANT AND MINING MATERIALS,

Including a superior 34 in. cylinder PUMPING ENGINE, 9 ft. stroke, with 10 ton BOILER; 106 fms. of 6 to 9 in. pumps; matchings; working barrels; H pieces; plunger poles; pole cases; top door pieces; windbores; main and bucket rods; strapping plates; hammered caps; an angle bob; bolts and burrs; 230 fms. of chain; horse whim and tackle; smiths' bellows; anvil; smiths' and miners' tools; double purchase crab; the erections of shops and account house and other useful plant.
May be viewed on application to Capt. DODGE, at the Mine, of whom catalogues may be obtained: also at the Railway Inns at Hayle, Truro, and Penzance; of the Liquidator, GEORGE STILL, Esq., Ethelburga House, London, E.C.; and of the Auctioneers, 70 and 71, Bishopsgate-street Within, London.

RUGBY, WARWICKSHIRE.

IMPORTANT TO CAPITALISTS, LIME, AND CEMENT MERCHANTS, BRICKMAKERS, AND OTHERS.

VALUABLE FREEHOLD ESTATE, WITH BED OF FIRST CLASS BLUE LIAS LIMESTONE, FOUR COTTAGES, BRICKYARD, AND KILNS, &c.

MESSRS. TAIT AND BIRD are favoured with instructions to SELL, BY AUCTION, at the George Hotel, Rugby, on Wednesday, October 11, 1876, under such conditions as will then be produced,

A FREEHOLD LANDED ESTATE,

Situate between Rugby and Newbold on-Avon, under which is a valuable Bed of Blue Lias Limestone, &c., adjoining the Oxford Canal, and within a very short distance of a railway.
Also, four well-built Cottages, now standing thereon.
Further particulars in future advertisements of the Auctioneers, or at the offices of Mr. EDMUND HARRIS, Solicitor, Rugby.

VALUABLE COLLIERY AT SHEFFIELD.

TO BE OFFERED FOR SALE, BY AUCTION, BY MR. JOSEPH NICHOLSON, at his Mart in High street, Sheffield, on Tuesday the 26th day of September, 1876, at Four o'clock in the afternoon, the COLLIERY known as

BRIGHTSIDE COLLIERY,

Situate at BRIGHTSIDE, in the parish of SHEFFIELD. The property is partly FREEHOLD and partly LEASEHOLD. The leasehold part is held under several leases, the particulars whereof can be obtained on application.
The coal remaining to be worked consists of about 190 acres of the Silkstone Bed and 113 acres of the Parkgate Bed.
There are 224 coke ovens on the premises, capable of producing a considerable quantity of coke, for which there is a great demand at the large manufacturing works in the immediate neighbourhood.
The colliery is provided with ample machinery, and adjoins the line of the Midland Railway from Sheffield to Rotherham and Masbro', and is connected therewith by sidings.
The fixed machinery (a schedule of which will be produced at the auction) will be included in the sale.
The purchaser will be required to take the horses, plant, loose tools, and effects at a valuation.
The working plans of the colliery may be inspected at the office of Mr. J. W. JEFFCOCK, Mining Engineer, Bank-street, Sheffield.
Further particulars, with conditions, may be obtained on application to Mr. J. W. JEFFCOCK; the Auctioneer, High-street, Sheffield; or to Messrs. BROOMHEAD, WIGHTMAN, and MOORE, Solicitors, Bank Chambers, George-street, Sheffield.

IN VOLUNTARY LIQUIDATION.

TO BE SOLD, on Wednesday, the 27th instant, at Two o'clock, at the Law Association Rooms, Cook-street, Liverpool, ALL THOSE VALUABLE MINES—CATHERINA, EMILIENS FREUDE HANNCHEN, and MARIECHEN, known collectively as the

BENSBERG LEAD MINE,

Situate at BENSBERG, near Cologne, on the Rhine; together with all the MACHINERY, FIXED and LOOSE PLANT, now in working order.
The mines are held under four grants or concessions, dated respectively the 29th September, 1868, and 9th April, 1870, and are subject to a royalty of 2 per cent. per annum on the profits, as estimated by the authorities,
Also a portion of the SURFACE GROUND of the MINES, held under a lease for 18 years, from the 1st January, 1873, subject to an annual rent of 35 thalers.
The total area of the mines is 1,956,034 German lachters, which are believed to be equal to about four square miles English measure.
The works can be inspected at any time on application to the Manager.
For further particulars, apply to A. W. CHALMERS, 5, Fenwick-street, Liverpool, where the lease, &c., can be seen; or to Messrs. HARVEY, ALSOP, and STEVENS, Solicitors, 12, Castle-street, Liverpool.

IN LIQUIDATION.

THE GARDDEN LODGE COAL, COKE, AND FIRE-BRICK COMPANY (LIMITED).

TO BE SOLD, BY PRIVATE TREATY, the

GARDDEN LODGE COLLIERY,

Close to RUABON, in NORTH WALES. The Colliery and Mines are held under a lease for 30 years, from March, 1863 (with power to extend for seven years further), and on very favourable terms as regards royalties, &c.
The MINES comprise 13 VALUABLE SEAMS of COAL under upwards of 160 acres of land, the united thickness of which seams is about 46 ft.
Also, excellent BEDS of IRONSTONE and FIRE-CLAY, which are now being worked. There are also 24 COKE OVENS, recently erected on the estate by the company on the most approved principle, with all usual fittings and appliances. A siding connects the works with the Great Western Railway.
The concern (except the coke ovens) is in full working order, and satisfactory reasons can be given for winding up the company.
The premises can be viewed, and full details had on application to Mr. JOHN TURNER, Gardden Lodge, Ruabon; or to Mr. JOSEPH HEAP, Rochdale, Solicitor to the Liquidator.

CARDIGANSHIRE.

NEW LISBURNE MINE.

TO BE SOLD, BY PRIVATE CONTRACT, by the Executrix of the late GEORGE PELL, Esq., deceased, a FREEHOLD ESTATE, with the MACHINERY and MATERIALS now in use thereon, comprising the above Mine, together with the MINING LEASES of adjoining properties, as a going concern.
It is believed the lodes of the Mine are a continuation of the well-known Logylas.
For plans and particulars apply to WALTER EDDY, Esq., Llangollen; and to view, Capt. BALL, on the Mine.

TAMAR VALLEY SILVER LEAD MINE, DEVON.

TO BE SOLD, BY PRIVATE TREATY, by the executrix of the late GEORGE PELL, Esq., deceased, all that desirable MINING SETT, situate in the parish of BEERFERRIS, in the county of DEVON, together with the MACHINERY and MATERIALS now in use on the said mine, which will be offered FOR SALE as a GOING CONCERN.
For plans and particulars, apply to WALTER EDDY, Esq., Llangollen; and to view, to Capt. TRURAN, on the Mine.

BERCUNES MINE, NEAR LINDAL-IN-FURNESS.

TO BE SOLD, BY PRIVATE TREATY, all that VALUABLE HEMATITE IRON ORE MINE, situate at LINDAL-IN-FURNESS, and known by the name of—

"BERCUNES,"

As the same was recently worked by WORDSWORTH HARRISON, Esq., J.P., together with the ore at bank, about 100 tons, and the following MINING PLANT:—
ONE STEAM BOILER with fittings, 500 feet of steam piping, 2 winding gins, 1 gin rope, 2 patent steam pumps, 1 hoisting crab and rope, 4 wheelbarrows, 6 picks, 26 pick shafts, 2 shovels, 4 saws, 1 axe, 2 hammers, 15 hammer shafts, 4 large water casks, 8 mine buckets, 4 barrels, 2 pair of standards, 2 tumbletrees, 2 augers, 2 tumbletree ropes, 3 fire pans, 500 yards of water troughing, and about 3000 feet of larch pit wood.
The Mine has been thoroughly proved, and a steady output may, it is believed, be relied upon.
For conditions of sale, and further particulars, apply to ALAN B. SALMON, Solicitor, Ulverston, and Barrow-in-Furness.

LEAD MINE, NORTH WALES.

TO BE SOLD, the LEASE, PLANT, and MACHINERY of a MOST VALUABLE LEAD MINE. The lode is proved, and about 600 tons of lead sold. It is worked by water-power; about £10,000 has been spent on it, and it will require £5000 to make it one of the best-paying mines in North Wales.
Apply to Mr. KEAY, Sutton, near Chester.

MERIONETHSHIRE GREEN SLATE, FLAG, HONE, AND SETTS QUARRY.

TO BE DISPOSED OF, on very reasonable terms, owing to the illness of the proprietor,

THE CLEGIR UCHA QUARRY,

Situate near to CORWEN, in the county of MERIONETH.
The Quarry is well opened, and contains an inexhaustible supply of green slates and flags, and also of stone admirably fitted for hones and setts.
The flags are easily enamelled, and are well adapted for the making of mantelpieces and other articles.
For further particulars, apply to Mr. ELLIS EVANS, Quarry Agent, Llansaintffraid Glyn Dyfrdwy, Corwen: or Messrs. MINSHALLS and PARRY JONES, Solicitors, Oswestry.

TO CAPITALISTS, AND OTHERS.

THE ABSOLUTE INTEREST of a FIRST-CLASS SLATE QUARRY TO BE SOLD, BY PRIVATE CONTRACT, the present owners not being able to work it for the want of capital. This estate will bear the strictest investigation, and needs only to be known to command a purchaser.
For further information, address W. WORDEN, Foss street, Dartmouth, Devon.

NICKEL FOR SALE IN NORWAY.

INDICATIONS, situated about thirty miles from Christiania, fifteen miles from a seaport, near a road, and four miles from a proposed railway station, are FOR SALE. The analysis of ore (magnetic pyrites) from the principal digging shows 39 per cent. rock, and 1·08 per cent. nickel, which is equivalent to 2¾ per cent. nickel in the clean ore. The prospects for profitable working are otherwise good. Price £3000 cash.
Apply to L. BIRKELAND, Esq., Advocate, Christiania.

MANGANESE AND SULPHUR ORES.

MESSRS. BROWN, BUTLER, AND CO., MINERAL MERCHANTS, AGENTS, AND BROKERS,
Are OPEN to TREAT for the PURCHASE of LARGE QUANTITIES of the ABOVE or other MINERALS, to be delivered in Liverpool.
Address, with particulars, stating quality and price, to Brockley Buildings, South John street, Liverpool.

LONDON OFFICES: 109, UPPER THAMES STREET, E.C.

FAVOURABLE OPPORTUNITY FOR INVESTMENT.

TWO GENTLEMEN, in possession of and now working a very VALUABLE MINERAL PROPERTY, well proved, and capable of producing an unlimited quantity of MANGANESE and MANGANIFEROUS IRON ORE, of the highest quality, are desirous to MEET WITH ONE OR TWO GENTLEMEN to JOIN THEM, in order to assist in extending the works and increasing the production.
The fullest investigation will be afforded, and further particulars may be obtained by addressing, in the first instance, "A. B.," Tavistock.

COLLIERY AND BRICKWORKS IN FULL WORK.

THE PROPRIETOR, a Practical and Certificated Mining Engineer, REQUIRES INCREASED CAPITAL, and would either SELL the WHOLE, or TAKE a PARTNER with about £1000. The pits and works are within carting distance of several important towns, demanding vastly greater output than present capital can supply.
For particulars, apply to Mr. BEALE, Commercial Buildings, Kidderminster.

SULPHATE OF BARYTES FOR SALE.—Fine powdered, beautifully white; also in the Rock or Crude State, free from Lime and Metallic Oxide.
Samples on application to—
RUTHWAITE BARYTES MINING COMPANY,
Nov. 17, 1875. WHITEHAVEN.

TO CAPITALISTS OR PROMOTERS DESIRING TO MAKE MONEY.

TO BE SOLD, a COLLIERY ROYALTY in NORTH WALES, close to rail or shipping port; several shafts partially sunk; coal fully proved of FOUR SEAMS of good HOUSE and STEAM COALS, in an area of upwards of 400 acres of surface. It adjoins the West Mostyn Coal Field, just successfully launched, where under seams (including Cannel) have been proved in addition to the above; so that eminent engineers state that the available coal in this royalty may be 88 feet thick.
Present holder will arrange to sell the entire to an individual or company for what it has cost him, dividing all profit made above, which, even in a normal state of the coal trade, must be large. Certain and safe surveys by eminent Staffordshire and Welsh engineers have already been made.
Address, Mr. WATSON, 27, Hamilton square, Birkenhead.

FOR SALE:—
A 40 in. CORNISH BEAM PUMPING ENGINE, 9 ft. stroke in cylinder, and 7 ft. in shaft (by Perran Foundry Company), in good condition.
THREE 30 ft. by 6 ft. 6 in. SINGLE-FLUED BOILERS, with all fittings complete—one of the above nearly new.
ONE 12 in. cylinder HORIZONTAL STEAM CAPSTAN, with drawing gear and drum complete, is equal to new.
Price for the lot as they stand, £480.
Apply—
JAMES PAYNE, WREXHAM.

FOR SALE, a 18-horse power PORTABLE STEAM ENGINE, with link motion reversing gear, ready for delivery.
A 25-horse power PORTABLE.
An 18-horse power VERTICAL STEAM ENGINE, with link motion reversing gear, also gear to wind and pump.
A 9 ft. PAN MORTAR MILL, VERTICAL ENGINE, and BOILER.
Apply to—
BARROWS AND STEWART, ENGINEERS, BANBURY.

ON SALE, TWO CORNISH BOILERS, 30 ft. by 7 ft. diameter, Two flues through each. Safe at 60 lbs. pressure working.
Apply to HENRY PARKINSON, Foundry-street, Bolton.

ON SALE, ONE PAIR of 18 in. high-pressure HORIZONTAL ENGINES, for winding, fitted with slot link motion. First-class pair of engines.
Apply to HENRY PARKINSON, Foundry-street, Bolton.

ON SALE, ONE PAIR of 15 in. HORIZONTAL WINDING ENGINES, with slot link motion. Will be sold cheap.
Apply to HENRY PARKINSON, Foundry-street, Bolton.

ON SALE, ONE 25-horse power double cylinder PORTABLE ENGINE, fitted with slot link motion for winding.
ONE 20-horse power double cylinder PORTABLE ENGINE.
Will be sold cheap, and are in first-class order.
Apply to HENRY PARKINSON, Foundry-street Boiler Works, Bolton, Lancashire

ON SALE, ONE 8-horse power PORTABLE ENGINE, fitted up with winding drum; slot link motion; made by Clayton and Shuttleworth. Price £160.
Apply to HENRY PARKINSON, Foundry-street, Bolton.

ON SALE, ONE PAIR of 25 inch. coupled HORIZONTAL WINDING ENGINES, with drums and brake gear. Also ONE PAIR of 22 in. ditto. Will be sold cheap.
Apply to H. PARKINSON, Foundry-street, Bolton.

ON SALE, ONE strong well-built condensing BEAM ENGINE, by a first-class maker, equal to new; cylinder 36 in. bore, 5 ft. stroke. Can be seen standing, and will be sold cheap. ONE close-built self-contained condensing BEAM ENGINE, stands on independent bed on six columns; cylinder 28 in. bore, 4 ft. stroke. As good as new. Can be seen standing, and will be sold cheap.
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BOILERS ON SALE.—FOUR GALLOWAY'S PATENT BOILERS, 30 ft. by 7 ft., safe to work at 70 lbs. on the square inch.
TWO BOILERS, 28 ft. by 7 ft., with two flues through.
TWO BOILERS, 26 ft. by 7 ft., two flues through.
ONE BOILER, 20 ft. by 7 ft., two flues through.
ONE BOILER, 18 ft. by 6 ft., one flue through.
Also several smaller sizes.
Apply to HENRY PARKINSON, Foundry-street, Bolton.

ON SALE, ONE 16 horse power double cylinder PORTABLE ENGINE, for winding.
ONE 12 horse power PORTABLE ENGINE.
ONE 10 horse power PORTABLE ENGINE.
ONE 8 horse power PORTABLE ENGINE.
ONE 6 horse power PORTABLE ENGINE.
Equal to new, and will be sold cheap.
Apply to HENRY PARKINSON, Foundry-street, Bolton.

ON SALE, ONE PAIR of 25 in. horizontal WINDING ENGINES.
ONE PAIR of 18 in. horizontal WINDING ENGINES.
ONE PAIR of 16 in. horizontal WINDING ENGINES.
ONE PAIR of 15 in. horizontal WINDING ENGINES.
ONE PAIR of 12 in. horizontal WINDING ENGINES.
ONE PAIR of 10 in. horizontal WINDING ENGINES.
ONE PAIR of 7 in. horizontal WINDING ENGINES.
The above engines are now ready for delivery, and fitted with winding drums and brake gear to each pair of engines.
Apply to HENRY PARKINSON, Foundry street, Bolton.

DIALLING TAUGHT PRACTICALLY and SCIENTIFICALLY in the Mine, in the neighbourhood of SNOWDON, CARNARVONSHIRE, affording Young Men from the City, and others, a rare opportunity of combining pleasure with instruction.
For terms, apply to Mr. JNO. ROBERTS, M.E., Mem. Min. Soc. Gt. Br. and I., Symdde Dylluan Copper Mines, Nantlle Vale, Pen-y-Groes, North Wales.

MR. W. F. STANLEY, MATHEMATICAL INSTRUMENT MANUFACTURER TO H.M.'S GOVERNMENT, COUNCIL OF INDIA, SCIENCE AND ART DEPARTMENT, ADMIRALTY, &c.
MATHEMATICAL, DRAWING, and SURVEYING INSTRUMENTS of every description, of the highest quality and finish, at the most moderate prices.
Price-list post free.
ENGINE DIVIDER TO THE TRADE.
ADDRESS—GREAT TURNSTILE, HOLBORN, LONDON, W.C.

CONSOLS, RAILWAY STOCKS, FOREIGN BONDS, and every description of SECURITIES PURCHASED and SOLD, for cash or account, by Messrs. THORNYCROFT AND CO., 30, BROCKLEY BUILDINGS, SOUTH JOHN STREET, LIVERPOOL. SPECIAL BUSINESS in SHARES of all the principal HOME and FOREIGN MINES, in connection with which classes of investments the experience of nearly half a century enables Messrs. THORNYCROFT and Co. to offer sound advice, based on reliable information.
A selected list of DIVIDEND PAYING SECURITIES and INVESTMENT FOR A RISE forwarded on application.
Bankers: The Adelphi Bank, South John-street, Liverpool.

MONEY ADVANCED, in sums of £500 and upwards, on FREEHOLD or LEASEHOLD PROPERTY, SHARES, STOCKS, and PERSONAL SECURITY.
Address, THORNYCROFT and Co., Accountants, Mortgage Brokers, Valuers, &c., 30, Brockley Buildings, South John-street, Liverpool.

B. & S. MASSEY, OPENSHAW, MANCHESTER.

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PATENTEES AND MAKERS OF DOUBLE AND SINGLE-ACTING

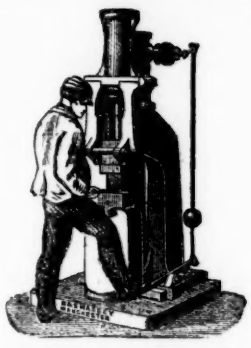
STEAM HAMMERS

Of all sizes, from ½ cwt. to **20 tons**, with self-acting or hand motion, in either case giving a perfectly **DEAD BLOW**, while the former may be worked by hand when desired. **Large Hammers**, with **Improved Framing**, in **Cast** or **Wrought Iron. Small Hammers**, working up to 500 blows per minute, in some cases being **worked by the Foot** of the Smith, and not requiring any separate Driver.

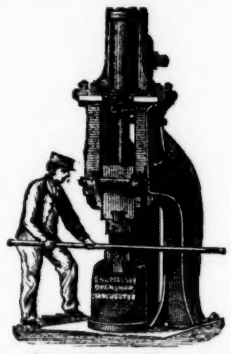
SPECIAL STEAM STAMPS, for Forging, Stamping, Punching, Bolt making, &c.

CIRCULAR SAWS for Hot Iron.

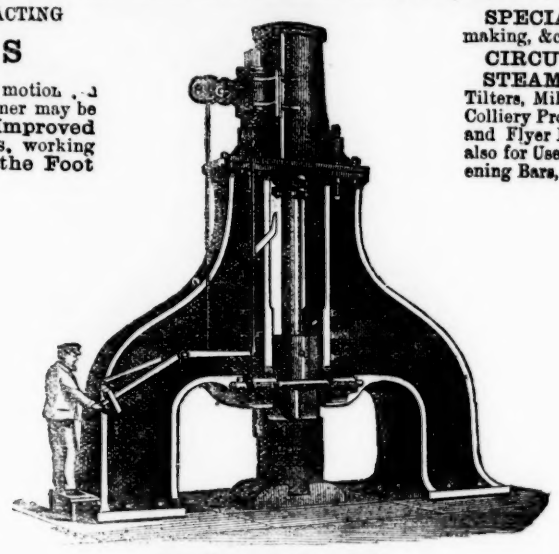
STEAM HAMMERS for Engineers, Machinists, Shipbuilders, Steel Tilters, Millwrights, Coppersmiths, Railway Carriage and Wagon Builders, Colliery Proprietors, Ship Smiths, Bolt Makers, Cutlers, File Makers, Spindle and Flyer Makers, Spade Makers, Locomotive and other Wheel Makers, &c. also for Use in Repairing Smithies of Mills and Works of all kinds; for straightening Bars, bending Cranks breaking Pig-iron, &c.



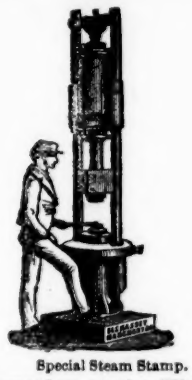
Smal Hammer with Foot Motion.



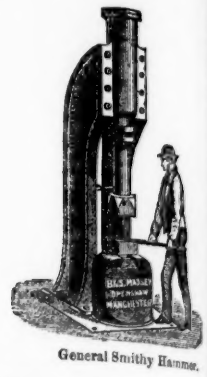
General Smithy Hammer.



Steam Hammer for Heavy Forging.



Special Steam Stamp.



General Smithy Hammer.

From 60 to 100 Steam Hammers and Steam Stamps may usually be seen in construction at the Works.

The Silver Medal of the Royal Agricultural Society

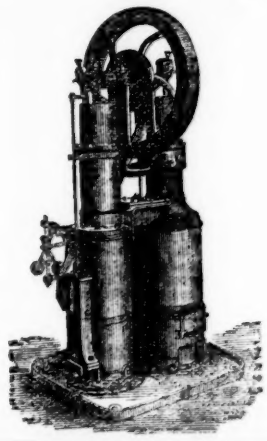
WAS AWARDED AT THE BIRMINGHAM SHOW, 1876, TO

HAYWARD TYLER & CO.

FOR

RIDER'S HOT AIR

For Pumping



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PATENT ENGINE,

and Driving Machinery.

PRICES AND PARTICULARS,—

HAYWARD TYLER AND CO., Whitecross-street, Londo

BARROWS & STEWART,

ENGINEERS, BANBURY,

MANUFACTURE

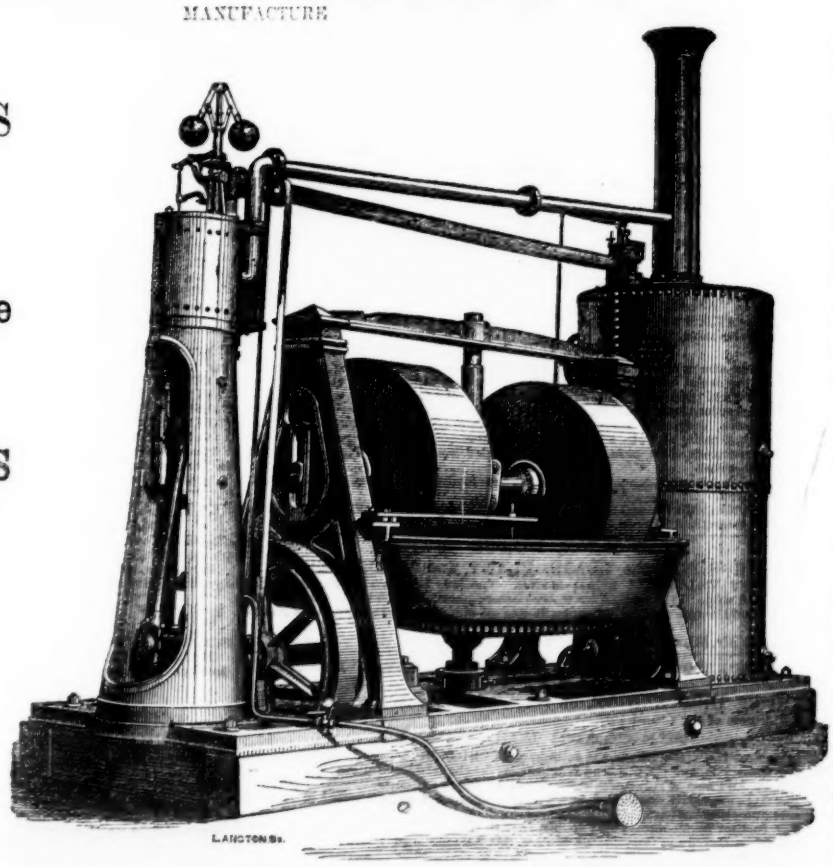
PORTABLE

Steam Engines

With Gear for Winding, Pumping, and Ore crushing.

ALSO,

COMBINED MILLS and ENGINES, with or without BOILERS, for Grinding Cinders, Sand, Mortar, &c.



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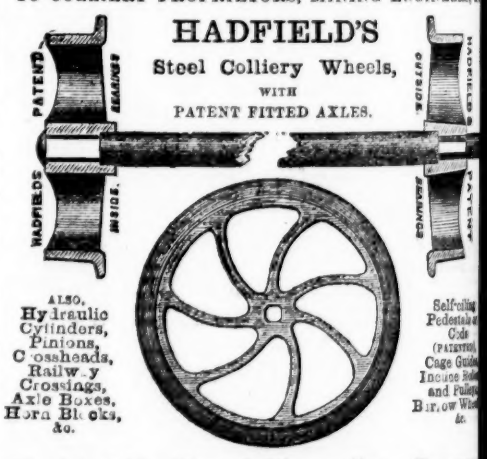
TO COLLIERY PROPRIETORS, MINING ENGINEERS,

HADFIELD'S

Steel Colliery Wheels,

WITH

PATENT FITTED AXLES.



ALSO,
Hydraulic Cylinders, Pinions, Crossheads, Railway Crossings, Axle Boxes, Horn Blocks, &c.

Self-rolling Pedestals and Gibs (PATENTED), Cage Guides, Incline Rollers and Pulleys, Bridle Wheels, &c.

Hadfield's Steel Foundry Company

MANUFACTURERS OF EVERY DESCRIPTION OF

CRUCIBLE CAST STEEL CASTINGS

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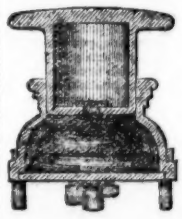

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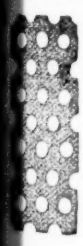

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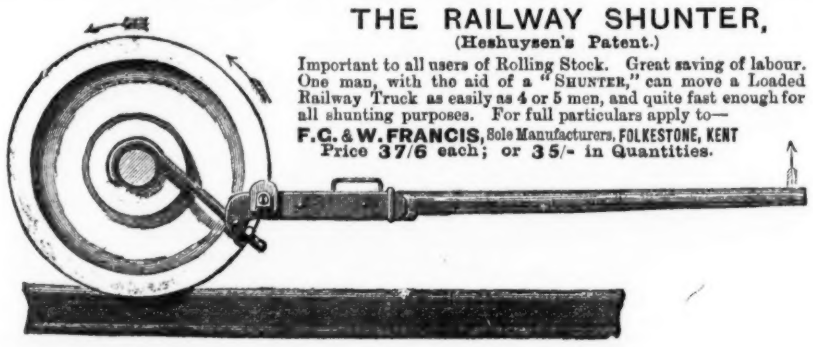

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The book will be found well worth reading."—*Glasgow Herald.*

THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.

Shares.	Mines.	Paid.	Last wk.	Clos. Fr.	Total divs.	Per share.	Last paid
1500	Alderley Edge, c, Cheshire*	10 0 0	—	...	12 11 8	0 5 0	Jan. 1876
15000	Balmynheer, t, Wendron (4000 to is.)	1 0 0	—	...	0 2 0	0 2 0	Nov. 1875
80000	Bampfylde, c, t, ma., Devon*	1 0 0	1⅜ ... 1⅜	1⅜	0 2 0	0 2 0	June 1873
400	Betallack, t, c, St. Just†	119 5 0	45 ... 40	45	619 15 0	5 0 0	Aug. 1872
4000	Brookwood, c, Buckfastleigh	1 16 0	2 ... 1¼	1½	3 16 0	0 2 0	Nov. 1875
8848	Cargoll, s-l, Newlyn†	6 6 0	3½ ... 3	3½	4 16 3	0 12 6	Oct. 1872
6400	Cashwell, i, Cumberland*	2 10 0	—	...	1 7 6	0 2 0	Aug. 1875
1000	Carn Brea, c, t, Illogan†	35 0 0	34 ... 31	33	308 0 0	1 0 0	Feb. 1874
4000	Cath. & Jane, c.* Feurhyndendraeth	5 0 0	—	...	0 7 6	0 7 6	June 1872
2480	Cook's Kitchen, t, Illogan†	22 17 3	2½ ... 2	2½	11 17 0	0 7 6	Jan. 1873
10240	Devon Gt. Consols, c, Tavistock†*	1 0 0	2½ ... 2¼	2½	116 10 0	0 12 0	May 1872
4256	Dolcoath, c, t, Camborne	10 14 10	34 ... 31	33	110 6 3	0 7 6	Aug. 1876
2400	Drake Walls, t, c, Calstock	6 0 0	¾ ... ½	¾	0 2 0	0 2 0	July 1874
12000	Duchess of Westminster,* l, Holywell	1 0 0	—	...	0 3 0	0 2 0	Feb. 1876
10000	East Pallesw'dden, t, Sancreed*	1 0 0	—	...	0 2 11	0 0 5	Feb. 1874
6144	East Caradon, c, St. Cleer†	2 14 6	1¼ ... ¾	1¼	14 19 0	0 2 0	Oct. 1872
800	East Darren, i, Cardiganshire	32 0 0	—	...	235 10 0	1 0 0	Aug. 1876
6400	East Pool, t, c, Illogan	0 9 9	13 ... 9	9¼	14 14 3	0 2 0	July 1876
1866	East Wheal Lovell, t, Wendron*⁋	6 19 0	3 ... 2	3	20 7 6	0 7 6	Oct. 1874
2800	Foxdale, i, Isle of Man*†	26 0 0	—	...	82 5 0	0 10 0	Feb. 1876
40000	Glasgow Cara., c* [30,000 £1 p., 10,000 15s. p.]	...	1¼ ... 1	1¼	0 11 10	0 2 0	Jan. 1876
15000	Great Dyliffe,* i, Montgomeryshire	4 0 0	5 ... 4	5	0 2 6	0 2 6	Apr. 1876
12000	Great Laxey, i, Isle of Man*	4 0 0	19 ... 18	19	20 3 0	0 10 0	July 1876
615	Great Retallack, l, bl, Perranzabuloe	5 18 6	1½ ... 1	1½	0 1 6	0 1 6	May 1876
28000	Great West Van, i, Cardigan*	2 0 0	⅝ ... ½	⅝	0 2 0	0 1 0	Aug. 1874
5008	Great Wheal Vor, t, c, Helston†⁋	41 12 6	¾ ... ½	¾	15 19 6	0 2 6	June 1872
6400	Green Hurth, i, Durham*	0 6 0	3½ ... 3	3½	1 12 0	0 4 0	Oct. 1874
20000	Grogwinion, i, Cardigan*	2 0 0	6 ... 5	6	0 8 0	0 2 6	Sept. 1876
9850	Gunnislake (Clitters'), t, c	5 5 0	25½ ... 2½	2⅝	0 12 9	0 2 0	June 1876
1024	Herodsfoot, i, near Liskeard†	8 10 0	4 ... 3	4	62 5 0	0 15 0	Oct. 1872
18000	Hingston Down, c, Calstock*† (£1 sh.)	2 5 0	¾ ... ¾	¾	4 4 0	0 1 0	Nov. 1875
25000	Killaloe, si, Tipperary	1 0 0	—	...	0 3 11½	0 0 6	Mar. 1873
400	Lisburne, i, Cardiganshire	18 15 0	70 ... 65	70	574 10 0	2 0 0	Aug. 1876
14000	Llanidloes,* i, Montgomery	3 0 0	3½ ... 3	3½	0 4 6	0 1 6	Nov. 1875
5120	Lovell, t, Wendron	0 10 0	—	...	0 17 6	0 1 6	Jan. 1874
9000	Marke Valley, c, Linkinhorne	5 0 6	1¾ ... 1⅝	1⅞	7 15 0	0 2 0	Jan. 1876
11000	Melindur Valley, i, Cardigan*	3 0 0	—	...	0 7 2	0 3 7	Jan. 1875
9000	Minera Mining Co., l, Wrexham*	5 0 0	22 ... 20	22	65 6 2	0 10 0	Aug. 1876
20000	Mining Co. of Ireland, ci, c, i*	7 0 0	5½ ... 5¾	5½	23 11 6	0 3 6	Jan. 1876
512	North Busy, c, Chacewater	3 9 6	—	...	0 10 0	0 10 0	Dec. 1875
12000	North Hendre, l, Wales	2 10 0	—	...	1 2 6	0 2 6	Nov. 1875
2000	North Levant, t, c, St. Just§	12 2 0	—	...	4 13 0	0 12 0	Sept. 1873
27855	Old Treburgett,* s-l, ordinary shares	1 0 0	—	...	0 0 9	0 0 9	Feb. 1874
9268	Old Treburgett,* s-l (10 per ct. pref.)	0 10 0	¾ ... ⅝	¾	0 1 4½	0 0 6	July 1874
5000	Penhalls, t, St. Agnes	3 0 0	—	...	3 13 6	0 2 0	July 1876
46793	Penstruthal, t, c, Gwennap	2 0 0	¾ ... ⅝	¾	0 2 8	0 0 8	Nov. 1876
12000	Phœnix, & W. Phœnix, t, c, Link.§	3 4 9	—	...	2 9 6	0 4 0	Nov. 1872
16000	Prince Patrick,* s-l, Holywell	1 0 0	—	...	0 14 0	0 1 3	Jan. 1876
1120	Providence, t, Lelant†§	18 6 7	2¾ ... 2	2¾	104 12 6	0 10 0	Sept. 1872
12000	Roman Gravels, i, Salop*	7 10 0	14 ... 13¾	13¾	6 4 6	0 8 6	May 1876
512	South Caradon, c, St. Cleer	1 5 0	105 ... 90	100	729 0 0	1 0 0	Aug. 1876
6128	South Condurrow, t, c, Camborne†	6 5 6	4½ ... 4	4¼	1 18 6	0 3 6	June 1876
10000	So. Pr. Patrick,* s-l. (8000 sh. issued)	1 0 0	—	...	0 7 0	0 1 0	Oct. 1875
12000	Tankerville, i, Salop*	6 0 0	10¾ ... 10¼	10¾	4 12 0	0 5 0	Aug. 1876
6000	Tincroft, c, t, Pool, Illogan†	9 0 0	18 ... 17½	18	49 13 6	0 5 0	Aug. 1876
15000	Van, i, Llanidloes*	4 5 0	38 ... 36	38	18 5 6	0 16 0	June 1876
8800	W. Chiverton, i, Perranzabuloe†	12 10 0	18¾ ... 17½	18½	54 10 0	0 10 0	Aug. 1876
1783	West Poldice, St. Day	10 0 0	13 ... 11	13	1 19 0	0 4 0	July 1876
512	West Tolgus, c, Redruth	95 10 0	55 ... 51	53	15 15 0	1 0 0	Aug. 1876
2048	West Wheal Frances, t, Illogan	27 13 9	4¾ ... 4	4¼	3 12 6	0 5 0	Oct. 1872
12000	West Wye Valley,* i, Montgomery	3 0 0	4½ ... 3½	4½	0 3 0	0 3 0	May 1876
512	Wheal Basset, c, Illogan§	12 2 6	12 ... 5	10	638 10 0	1 10 0	Aug. 1872
1024	Wheal Eliza Consols i, St. Austell	20 0 0	—	...	6 0 0	0 0 0	Aug. 1876
2048	Wheal Jane, t, Kea	2 13 10	1¾ ... 1	1¼	8 5 0	0 5 0	July 1871
4295	Wheal Kitty, t, St. Agnes	5 4 6	2¾ ... 2	2½	11 19 6	0 2 6	Dec. 1874
80	Wheal Owles, t, St. Just§	86 5 0	150 ... 140	150	522 10 0	4 0 0	Aug. 1872
6000	Wheal Prussia, t, Redruth	2 0 0	—	...	0 3 0	0 2 0	Dec. 1875
25000	Wicklow c, sm, i, Wicklow	2 10 0	2 ... 1⅞	2	52 9 0	0 2 6	Mar. 1872
10000	Wye Valley, l, Montgomery*	3 0 0	7½ ... 6	7	0 6 0	0 3 0	Aug. 1875

FOREIGN DIVIDEND MINES.

Shares.	Mines.	Paid.	Last wk.	Clos. Fr.	Total divs.	Per share.	Last paid
35500	Alamillos, l, Spain*†	2 0 0	2½ ... 1¾	2¼	1 14 9	0 2 6	Mar. 1876
30000	Almada and Tirito Consol., c*†	1 0 0	¾ ... ½	¾	0 6 3	0 1 0	May 1876
20000	Australian, c, South Australia†	7 7 6	2¾ ... 2	2¾	0 18 0	0 2 6	Aug. 1876
10000	Battle Mountain,* c, (6240 part pd.)	5 0 0	—	...	0 10 0	0 10 0	Nov. 1872
15000	Birdseye Creek, g, California*	4 0 0	⅞ ... ⅝	⅞	0 14 0	0 2 6	June 1874
12850	Burra Burra,* c, So. Australia	5 0 0	—	...	70 0 0	0 0 0	Oct. 1872
20000	Cape Copper Mining,*† So. Africa	7 0 0	40 ... 38	40	24 15 0	1 0 0	June 1876
40000	Cedar Creek, g, California*	5 0 0	¾ ... ½	¾	0 5 0	0 2 6	June 1873
80000	Central American Association*†	0 18 6	—	...	0 6 0	0 1 0	July 1869
15000	Chicago, s, Utah*	10 0 0	6¾ ... 6	6¼	2 4 0	0 4 0	Aug. 1876
21000	Colorado Terrible, s-l, Colorado*†	5 0 0	1½ ... 1	1½	0 13 6	0 4 0	Jan. 1875
10000	Copiapo, c, Chili† (£20 shares)	16 15 0	—	...	7 8 5	0 2 6	Jan. 1876
100000	Don Pedro North del Rey*†	0 16 0	⅛ ... ⅛	...	2 5 9	0 2 0	Mar. 1872
28500	Eberhardt and Aurora, s, Nevada*†	10 0 0	8¾ ... 8¼	8¾	1 5 0	0 5 0	July 1876
50000	Emma,* g, s, Utah	20 0 0	¾ ... ½	¾	3 12 0	0 6 0	Dec. 1872
70000	English and Australian, c† S. Aust.	2 10 0	1½ ... 1¼	1½	2 18 9	0 2 0	Mar. 1876
15000	Ferguson, g, California*	2 0 0	—	...	0 3 0	0 3 0	April 1872
80000	Flagstaff, s, Utah*	10 0 0	1¾ ... 1¼	1¾	4 2 0	0 5 0	July 1873
25000	Fortuna, i, Spain*†	2 0 0	6 ... 5½	6	5 15 10	0 8 0	Mar. 1876
85000	Frontino & Bolivia, g, New Gran.*†	2 0 0	2¾ ... 2½	2⅝	0 1 0	0 1 0	June 1876
30000	Gold Run, Aya	1 0 0	⅜ ... ⅜	⅜	0 2 4	0 0 4	Oct. 1872
68000	Kapunda Mining Co. Australia†	1 3 0	—	...	0 2 4	0 0 6	June 1873
20000	Last Chance, s,* Utah	5 0 0	¾ ... ¾	¾	0 14 0	0 2 0	July 1873
18000	Linares, i, Spain*†	3 0 0	6 ... 5½	6	15 19 2	0 10 0	Mar. 1876
85000	London and California, g*†	2 0 0	½ ... ¼	½	0 1 0	0 1 0	July 1875
7837	Lusitanian, Portugal*† (£5 shares)	3 10 0	—	...	1 11 6	0 1 6	Mar. 1873
5000	Mammoth Copperopolis of Utah, c, s	10 0 0	—	...	0 5 0	0 5 0	Dec. 1872
5000	Mountain Chief, s, Utah*	10 0 0	—	...	0 4 0	0 4 0	Jan. 1873
18000	Prussian Mining & Ironworks, ci, i.	30 0 0	—	...	6 0 0	3 0 0	July 1873
10000	Pontgibaud, s-l, France†	20 0 0	18 ... 16	18	20 14 2	1 3 2	Nov. 1875
100000	Port Phillip, g, Clunes*†	1 0 0	⅜ ... ⅓	⅜	1 8 0	0 1 0	Jan. 1872
54000	Richmond Consols, s, Nevada*†	5 0 0	9 ... 8¾	9	3 1 6	0 7 6	Aug. 1876
40000	Santa Barbara,* g, Brazil	0 10 0	2¼ ... 1⅞	2⅛	0 1 3	0 1 3	Apr. 1876
120000	Scottish Australian Mining Co.*†	1 0 0	1⅞ ... 1⅝	1⅞	15 per cent.		May 1876
80000	Scottish Austral. Mining Co., New	0 5 0	⅝ ... ⅜	⅝	15 per cent.		May 1876
112800	Sierra Buttes, g, California*†	2 0 0	1¾ ... ¾	1¾	1 14 0	0 2 0	Apr. 1876
60000	South. Aurora, s, Nevada*	5 0 0	⅝ ... ⅜	⅝	0 14 2	0 2 0	Nov. 1873
£225000	St. John del Rey*† (£5 stock and multiples dealt in)	...	360 ... 320	360	½ year...	25 p. ct.	for June 1876
15000	Sweetland Creek, g, California*†	4 0 0	¾ ... ⅛	¾	3 8 0	0 2 0	June 1876
20000	Tolima, g, s* So. America	5 0 0	3¾ ... 3	3¼	0 11 6	0 6 6	May 1874
15000	Western Andes, s,* New Granada	5 0 0	—	...	2 14 10	0 8 3	July 1876
21000	W. Prussian (2500 pref. sh. 8l. paid)	10 0 0	11½ ... 11	11½	0 16 0	0 8 0	Sept. 1876

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Clos. Pr.	Last Call.
20000	Anglo-Australian, g, Victoria*	2 10 0	— ...		Sept. 1872
5000	Anguilla Phosphate, West Indies (4000 issued)	10 0 0	— ...		Fully pd.
12000	Argentine, g, Argentine Republic	5 0 0	5½ ...	5 5½	Fully pd.
10000	Australian Central, g* (also 6000 deferred shares)	1 0 0	— ...		Fully pd.
3000	Bellavista, s, Peru* (£10 shares)	10 0 0	— ...		Fully pd.
80000	Blue Tent, hyd., California	5 0 0	3¼ ...	3 3¼	Fully pd.
50000	Braganza, g, Brazil*†	0 15 0	— ...		Oct. 1870
12000	Camp Floyd, s, Utah*	10 0 0	— ...		Fully pd.
35000	Cesena Sulphur Company, Romanga, Italy*	10 0 0	— ...		Fully pd.
50152	Chontales, g, s, Nicaragua*†	2 0 0	— ...		Fully pd.
6000	Clifton, s, Colorado*	5 0 0	¾ ... ⅛	¾	Feb. 1872
16000	Condes of Chili, s-l	5 0 0	— ...		Fully pd.
35000	Excelsior Hydraulic Gold Washing Co., California*	5 0 0	5¼ ... 4½	5	Fully pd.
100000	Exchequer, g, s, California*†	1 0 0	— ...		Dec. 1871
40000	Holcombe Valley, g,* California	1 0 0	2¼ ... 1¾	2¼	Fully pd.
6000	Hornachos,* s-l, (£10 shares) Spain	10 0 0	— ...		July 1873
20000	Imperial Brazilian Collieries, Brazil*	5 0 0	15½ ... 14½	15½	Jan. 1874
60000	I. X. L., g, s, California*	1 0 0	— ...		Fully pd.
5000	Javali, g, Nicaragua*	1 0 0	1 ... ⅞	1	Fully pd.
12000	Lanestosa,* i, z, Viscaya, Spain (£2 shares)	2 0 0	½ ... ⅜	½	Fully pd.
75000	Malabar, g, Colombia* (85000 issued)	1 15 0	— ...		Mar. 1876
40000	Malpaso, g, Colombia* (10000 pref. shares, fully paid)	1 0 0	— ...		Fully pd.
12000	Menzenberg, c, Honnef, Germany*	1 0 0	¾ ... ⅛	¾	Fully pd.
6000	Monte Loreto, g, c, Italy*	5 5 0	— ...		Fully pd.
60000	New Quebrada, c, Venezuela*	5 0 0	— ...		Fully pd.
50000	New Rosario, s, Mexico*	5 0 0	4½ ... 3¾	4¼	Fully pd.
20000	New Zealand Kapanga, g, Coromandel*	1 0 0	— ...		Fully pd.
8000	Oregon,* g, Oregon, U.S. (preference shares)	5 0 0	3¼ ... 2¼	2¼	Fully pd.
50000	Panuicillo, c, Chili*† (£80000 debentures)	4 0 0	4½ ... 4	4½	Sept. 1875
60000	Pestarena United, g, Italy*†	4 0 0	2¼ ... 2	2½	Fully pd.
50000	Rica, g, Colombia* (40000 issued)	1 0 0	¼ ... ⅛	¼	Fully pd.
£2,151,000	Rio Tinto,* c, Huelva, Spain	Stock	— ...		Fully pd.
100000	Rosza Grande, g, Brazil*† (£1 shares)	0 19 0	61 ... 59	61	Fully pd.
30000	Russia Copper, Orenburg and Ufa*†	10 0 0	⅛ ...	⅛	July 1872
25000	San Pedro, c, Chili*	2 0 0	2¼ ... 2	2¼	Fully pd.
10000	Silver Plume, s, Colorado*	2 0 0	1¼ ... ⅞	1⅛	Fully pd.
97500	Snowdrift, s, Colorado*	1 0 0	— ...		Fully pd.
30000	Tecoma, s, Utah*	2 0 0	— ...		Fully pd.
20000	Thornhill Reef, g, Australia*	10 0 0	¾ ... ½	¾	Fully pd.
64174	United Mexican, s, Mexico*†‡	1 0 0	¾ ... ½	¾	Fully pd.
14000	Utah, g, s-l, Utah*	28 15 3	2¼ ... 2	2¼	May 1875
25000	Victoria (London)*, g, Australia (25,000 sh. 16s. pd.)	5 0 0	— ...		Fully pd.
75000	Yorke Peninsula, c, South Australia	1 0 0	— ...		Fully pd.
40000	Yorke Peninsula, c, South Australia Preference	1 0 0	⅛ ... ¼	⅛	Fully pd.

⁋ Have made calls since last dividend was paid.

FOREIGN AND MISCELLANEOUS STOCKS, BONDS, LOANS, AND TRUSTS.

	Closing Prices.	
Argentine, 1868, 6 per cent.	41	43
Bolivia, 6 per cent.	17	19
Brazilian, 1865, 5 per cent.	85	87
Chilian, 1866, 7 per cent.	99	102
City of Providence, 6 p.c. coupon bonds	95	97
Egyptian, 1862, 7 per cent.	41	44
Do., 1868, 7 per cent.	42	44
Do., 7 per cent., V.M.L.	43	45
Do., 9 per cent. guar.	46	50
Do., 7 per cent., K.M.L.	41	43

	Closing Prices.	
Foreign and Col. Gov. Trust, 6 p. cent.	80	85
Do., 5 per cent., 2d issue	51	59
Do., 6 per cent., 3d issue	60	66
Do., 1872, 4th issue	54	59
Do., 1873, 5th issue	51	59
Peruvian, 1870, 6 per cent.	17¼	17¼
Do. 1872, 5 per cent.	14	14
Russian, 5½ per cent. L. Mort.	80	83
Spanish, Quicksilver Mort., 5 p. cent.	90	92
United States Mort., 6 per cent.	96	97

NON-DIVIDEND MINES.

Shares.	Mines.	Paid.	Last wk.	Clos. Fr.
40000	Aberdaunant, i, Llanidloes*	1 0 0	1⅜ ... 1	1⅜
10000	Aberystwith,* s-l, Cardigan	5 0 0	—	...
7800	Alvigg. & Burng.,* t, St. Aust. (£5 sh.)	1 10 0	2⅝ ... 2	2⅝
18000	Ambrose Lake, t, c, Liskeard	1 18 6	—	...
12000	Assheton, i, Carnarvonshire*	5 0 0	1¾ ... ¾	1
50000	Ballycummisk,* c, Schull	2 0 0	—	...
12000	Bedford United, c, Tavistock	1 17 6	¾ ... ⅝	¾
78000	Belstone,* c, Devon (27,000 fully pd.)	1 0 0	3 ... 2¾	3
15000	Elsen United,* s-l, Cardigan	1 0 0	1⅛ ... ¾	1⅛
3937	Elue Hills, t, c, St. Agnes	3 2 6	—	...
30000	Bodidris,* l, bl, Denbighshire	1 0 0	1 ... 1	1
2000	Bowden Hill,* ma	1 0 0	—	...
6000	Bradwell Moss Rake	1 0 0	1½ ... ⅜	1⅛
20000	Brynambor, i, Cardigan	1 0 0	—	...
4093	Bwadrain, s-l, Cardigan*	4 0 0	—	...
4127	Bwlch Consols, s-l, Cardigan*‡	5 0 0	—	...
38000	Caldbeck Fells, i, Cumberland*	2 0 0	—	...
5584	Carn Camborne, c, t, Camborne	5 3 6	⅛ ... ⅛	⅜
10000	Cathedral, t, c, Gwennap*	1 10 0	1⅝ ... 1⅛	1⅝
20000	Central Foxdale, i, Isle of Man*(£2 sh.)	1 0 0	—	...
10000	Central Van,* i, bl, Llanidloes	5 0 0	—	...
20000	Cwm Dwyfor,* c, s-l, Carnarvonshire	1 0 0	1¼ ... 1	1¼
15000	Cwm Naut Ddu,* i, Montgomery	1 0 0	—	...
3000	Cwmystwith (New) [5l. shares]	4 0 0	—	...
10000	Denbighshire Consolidated, l*	3 0 0	3 ... 2⅝	3
656	Ding Dong, t, Gulval	51 9 6	4 ... 3½	4
10000	Dubby Syke, i, Durham*	0 11 6	¾ ... ⅝	¾
10000	Duchy Great Consols, c, Calstock	5 0 0	—	...
512	East Basset, c, Redruth†‡	77 7 6	15 ... 10	15
5000	East Black Craig,* l., Scotland	5 0 0	5½ ... 5	5½
4000	East Chiverton, i, Perranzabuloe	6 12 0	2¼ ... 2	2¼
6000	East Goginan, l, Cardigan	2 0 0	2 ... 2	2
8000	East Grenville, c, Camborne	7 8 6	—	...
30000	E. Nant-y-mwyn,* l, Brecknockshire	1 0 0	¾ ... ¾	¾
6000	East Tywarnhaile, c, St. Agnes	0 10 0	4½ ... 4	4⅜
18000	East Van, i, Llanidloes*	5 0 0	11 ... 9¾	10¾
20000	Elgar,* s-l, Cardiganshire	1 0 0	1¼ ... 1	1¼
8000	Fronvellan, l, Mont.* [4000 sh. fy. pd.]	1 0 0	1⅛ ... 1	1⅛
3950	Gawton, c, Tavistock	4 1 6	⅜ ... ⅜	⅜
12000	Glan Clwyd,* l, Gwyddelwern	1 0 0	⅞ ... ¾	⅞
10000	Glan Severn, s-l, Flintshire	1 0 0	—	...
2000	Glenroy,* s-l, Isle of Man	4 0 0	6 ... 5	6
10000	Glyn,* i, Llanidloes	2 0 0	3¼ ... 3	3¼
15000	Gobbett, t, Dartmoor	1 0 0	—	...
12000	Goginan, and Level Newydd, Card., l	2 10 0	—	...
100000	Gold, g, Merionethshire	1 0 0	—	...
20000	Goreu,* s-l, Carmarthen	0 14 0	—	...
7500	Gorsedd and Merllyn Cons., l, Flint	2 10 0	2¾ ... 2	2⅝
20000	Gt. East Foxdale, l, I. of Man(1/ sh.)	0 15 0	—	...
9500	Great Pant-y-Pydew, l, Holywell	2 0 0	—	...
6000	Great Wheal Eleanor, t, North Bovey	1 0 0	3 ... 2	3
18000	Grosvenor, l, Holywell (£1 sh.)	0 7 0	—	...
10000	Harehope Gill,* l, Durham (£1 sh.)	0 5 0	1 ... ¾	1
6400	Harwood,* l, Durham	0 15 0	1 ... 1	1¼
6000	Keswick United, l*	5 0 0	—	...
4000	Killifreth, t, Chacewater	1 13 0	¾ ... ⅝	¾
25000	Kingston Consols, s-l, Stoke Climsland	1 0 0	1¼ ... 1	1¼
12000	Ladywell,* l, Salop	2 10 0	1¼ ... 1⅛	1⅛
2500	Levant, c, t, St. Just	9 8 6	—	...
64	Llandilo, s-l, bl, Flintshire	50 0 0	—	...
15000	Llanlivery Cons., t, c, ars, Llanlivery	1 0 0	1¼ ... 1	1¼
25000	Llanrhaiadr, i, Montgomery*	2 0 0	—	...
30000	Llanrwst,* l, Carnarvon	2 0 0	3¼ ... 2¾	3¼
15000	Llwyn Teify,* s l, Cardigan	1 0 0	—	...
6000	Medlyn Moor, t, Wendron	1 4 10	1⅝ ... 1½	1⅝
10000	Mellanear Copper, Hayle*	2 0 0	—	...
13000	Monydd Gorddu, i, Cardigan*	5 0 0	4 ... 3¼	4
4000	Nanty, i, Montgomeryshire*	1 0 0	—	...
25000	Nant-y-Ronen, s-l, Cardigan*	1 0 0	—	...
12000	Neptune,* c, Perranuthnoe	9 5 0	—	...
10000	New Beldon, i, Northumberland*	1 0 0	—	...
3000	New Chiverton,* l, Perranzabu'oe	6 0 0	6½ ... 6	6½
20000	New Consols, c, Stoke Climsland*	3 0 0	1¼ ... 1	1¼
8000	New Crickheath,* l, Shropshire	2 0 0	—	...
8000	New Dolcoath, t, c, Camborne*	3 0 0	1⅛ ... 1	1¼
20000	New East Foxdale, s-l, Isle of Man	0 15 0	—	...
15000	New Fowey Consols, t, St. Blazey*	3 0 0	2 ... 1⅝	2
2000	New Hendra, t, Breage	2 9 0	1 ... ¾	⅞
10000	New North Pool,* c, Illogan	3 0 0	3 ... 2	3
6400	New Pembroke, t, c, Par Station	5 10 6	⅜ ... ⅛	⅜
5000	New Rosewarne, c, Gwinear	5 17 0	¾ ... ½	¾
5000	New St. Agnes,* t, St. Agnes	5 0 0	5¼ ... 5	5¼
3200	New South Merllyn, l, Flint*	2 10 0	—	...
4000	North Cornwall, l, Cornwall (£5 sh.)	3 0 0	5¼ ... 5	5¼
17000	North Laxey,* Isle of Man	2 0 0	⅞ ... ¾	1
20000	North Prince Patrick,* l, Holywell	1 0 0	1¼ ... 1	1¼
2000	North Wheal Towan, t, c, Illogan	1 19 6	—	...
1000	North Rosewarne, c, Gwinear	6 12 6	—	...
8000	North Treleigh Wood, t, Redruth*	1 0 0	1¼ ... 1	1¼
5936	North Treskerby, c, St. Agnes	3 17 10	—	...
6000	Old Talargoch, l, Flintshire*	2 0 0	—	...
2500	Old Tincroft, c, t, Lelant*	4 0 0	4 ... 3	4
18923	Parys Mountain,* c, Anglesea	3 0 0	¾ ... ⅝	¾
4000	Pate'ey Bridge, l, Yorkshire	5 0 0	4½ ... 3¾	4¼
9530	Pedn-an-drea, t, Redruth§	9 17 0	—	...
8000	Pennant, l, bar, North Wales*	5 0 0	5½ ... 5	5¼
12000	Pennerley, l, Shropshire*	2 0 0	1¾ ... 1¼	1½
12000	Plynlimmon, i, Llanidloes*	2 5 0	⅜ ... ¼	¾
648	Polrose, t, Breage	21 0 0	—	...
10000	Port Nigel,* s-l, Carnarvonshire	2 0 0	2 ... 1½	2
2000	Prideaux Wood, t, Llanivery	5 0 0	—	...
12800	Prince of Wales, c, Calstock§	1 14 0	¾ ... ½	¾
6000	Relistian Consols, c, Gwinear	0 10 0	¾ ... ½	¾
15000	Rookhope, l, Durham*	1 10 0	⅞ ... ⅞	1
6000	Rosewarne United, c, t, Gwinear	1 10 0	—	...
3000	Russell, s-l, Swymbridge	0 6 0	—	...
5000	Silvercross,* c, t, Marazion	1 0 0	¾ ... ½	¾
4200	Snowbrook, s-l, Montgomery	5 0 0	5¼ ... 5	5¼
12000	South Bwadrain, s-l, Llanbadarnfawr	0 10 0	—	...
5000